DVD Player

DVP3120(K)

Service

Service

Service

DVP3120/05/12/51/55/94/75

DVP3120K/55

Service Manual

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CLASS 1 LASER PRODUCT

Published by TCL-HY 0707 Service Audio Printed in The Netherlands Subject to modification

GB 3139 785 324XX

Version 1.0

PHILIPS

Technical Specifications

TV standard (PAL/50Hz) (NTSC/60Hz)

Number of lines	625	525
Playback	Multi standard	(PAL/NTSC)

Video performance

Video DAC	12 bit, 108MHz
YPbPr	0.7Vpp ---- 75 ohm
Video output	1Vpp ----- 75 ohm
RGB（SCART）	0.7Vpp ---- 75 ohm (For Europe Version)

Video format

Digital Compression	MPEG 2 for DVD,SVCD MPEG 1 for VCD

DVD	**50Hz**	**60Hz**
Horiz resolution	720 pixels	720 pixels
Vertical resolution	576lines	480 lines

VCD	**50Hz**	**60Hz**
Horiz. resolution	352 pixels	352 pixels
Vertical resolution	288lines	240 lines

Audio format

Digital	**MPEG/AC-3/ PCM**	**Compressed Digital** **16, 20, 24bits** fs, 44.1, 48, 96kHz
	MP3(ISO 9660)	96,112,128,256kbps & variable bit rate fs,32, 44.1,48 kHz

Analogue Sound Stereo
Dolby surround compatible downmix from Dolby Digital multi-channel sound

Audio performance

DA converter	24bits, 192KHz	
DVD	fs 96kHz	4Hz----44kHz
	fs 48kHz	4Hz----22kHz
SVCD	fs 48kHz	4Hz----22kHz
	fs 44.1kHz	4Hz----20kHz
CD/ VCD	fs 44.1kHz	4Hz----20kHz
Signal-Noise (1kHz)		>90dB
Dynamic Range (1kHz)		>80dB
Cross talk (1kHz)		>70dB
Distortion/Noise (1kHz)		>65dB
MPEG MP3		MPEG Audio L3

Connections

Scart Output	Euroconnector (For Europe version)
YPbPr output	Cinch 3x
Video output	Cinch(yellow)
Audio output (L+R)	Cinch (white/red)
Digital output	1 coaxial IEC60958 for CDDA/ LPCM IEC61937 for MPEG1/2, Dolby Digital

Cabinet

Dimensions (w X h X d)	360 x 37 x 235 mm
	360 x 37 x 209 mm (For DVP3120 /05/12/55)
Weight	Approximately 2 kg

Power consumption

Power supply Rating	110V-240V; 50/60HZ
Power consumption	<10W
Power consumption in standby mode	<1W

Specifications subject to change without prior notice.

Safety instruction, Warning & Notes

Safety instruction

1. General safety

Safety regulations require that during a repair:

. Connect the unit to the mains via an isolation transformer.

. Replace safety components indicated by the symbol ⚠, only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

. Route the wires/cables correctly, and fix them with the mounted cable clamps.

. Check the insulation of the mains lead for external damage.

. Check the electrical DC resistance between the mains plug and the secondary side:

1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
2) Set the mains switch the "on" position (keep the mains cord unplug).
3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
4) Repair or correct unit when the resistance measurement is less than 1MΩ.
5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2.Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

Type : Semiconductor laser GaAlAs

Wavelength : 650nm (DVD)

: 780nm (VCD/CD)

Output power : 7mW (DVD)

: 10mW (DVD /CD)

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warning

1.General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handing during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply , including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is “off”!). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A “lighting stroke” and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is “on”.

2. Laser

. The use of optical instruments with this product, will increase eye hazard.

. Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

. Repair handing should take place as much as possible with a disc loaded inside the player.

. Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Notes

Lead-Free requirement for service

INDENTIFICATION:
Regardless of special logo (not always indicated)

One must treat all sets from 1.1.2005 onwards, according next rules.

Important note: In fact also products a little older can also be treated in this way as long as you avoid mixing solder-alloys (leaded/ lead-free). So best to always use SAC305 and the higher temperatures belong to this.

Due to lead-free technology some rules have to be respected by the workshop during a repair:

- Use only lead-free solder alloy Philips SAC305 with order code 0622 149 00106. If lead-free solder-paste is required, please contact the manufacturer of your solder-equipment. In general use of solder-paste within workshops should be avoided because paste is not easy to store and to handle.
- Use only adequate solder tools applicable for lead-free solder alloy. The solder tool must be able
  - o To reach at least a solder-temperature of 400°C,
  - o To stabilize the adjusted temperature at the solder-tip
  - o To exchange solder-tips for different applications.
- Adjust your solder tool so that a temperature around 360°C – 380°C is reached and stabilized at the solder joint. Heating-time of the solder-joint should not exceed ~ 4 sec. Avoid temperatures above 400°C otherwise wear-out of tips will rise drastically and flux-fluid will be destroyed. To avoid wear-out of tips switch off un-used equipment, or reduce heat.
- Mix of lead-free solder alloy / parts with leaded solder alloy / parts is possible but PHILIPS recommends strongly to avoid mixed
  solder alloy types (leaded and lead-free). If one cannot avoid, clean carefully the
  solder-joint from old solder alloy and re-solder with new solder alloy (SAC305).
- Use only original spare-parts listed in the Service-Manuals. Not listed standard-material (commodities) has to be purchased at external companies.
- Special information for BGA-ICs:
  - always use the 12nc-recognizable soldering temperature profile of the specific BGA (for de-soldering always use highest lead-free temperature profile, in case of doubt)
  - lead free BGA-ICs will be delivered in so-called 'dry-packaging' (sealed pack including a silica gel pack) to protect the IC against moisture. After opening, dependent of MSL-level seen on indicator-label in the bag, the BGA-IC possibly still has to be baked dry. This will be communicated via AYS-website.
  Do not re-use BGAs at all.
- For sets produced before 1.1.2005, containing leaded soldering-tin and components, all needed spare-parts will be available till the end of the service-period. For repair of such sets nothing changes.
- On our website:
  www.atyourservice.ce.Philips.com

You find more information to:

BGA-de-/soldering (+ baking instructions)
Heating-profiles of BGAs and other ICs used in Philips-sets

You will find this and more technical information within the "magazine", chapter "workshop news".

For additional questions please contact your local repair-helpdesk.

Mechanical and Dismantling Instructions

Dismantling Instruction

The following guideline is a general instruction for how to dismantle the player, Detailed operation done according the set unit.
Step1: Remove 5 screws around the Top Cover, then remove the Top Cover (Figure 1).

Figure 1

Step2: If it is necessary to dismantle Loader or Front Panel, It should be remove the Front door assembly first. (Figure 2)
Note: Make sure to operate gently otherwise the guider would be damaged.

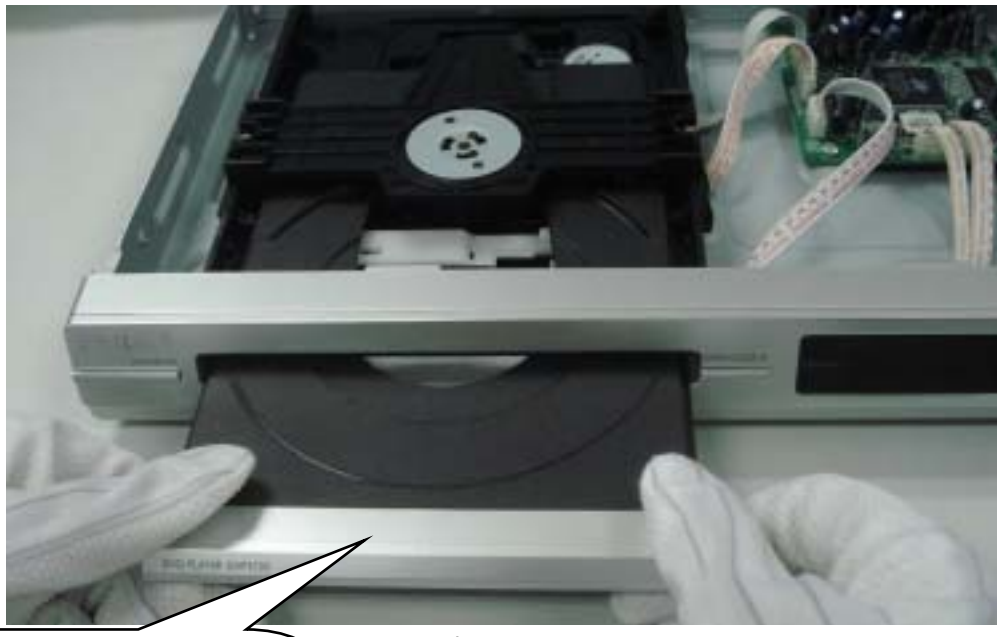


Figure 2

Please kindly note that dismantle the front door assembly carefully to avoid damage tray and the front door assembly.

Mechanical and Dismantling Instructions

Dismantling Instruction

Step3: If the tray can't open in normal way, you can make it through the instruction as below (Figure 3).
Note: Make sure to operate gently otherwise the guider would be damaged.

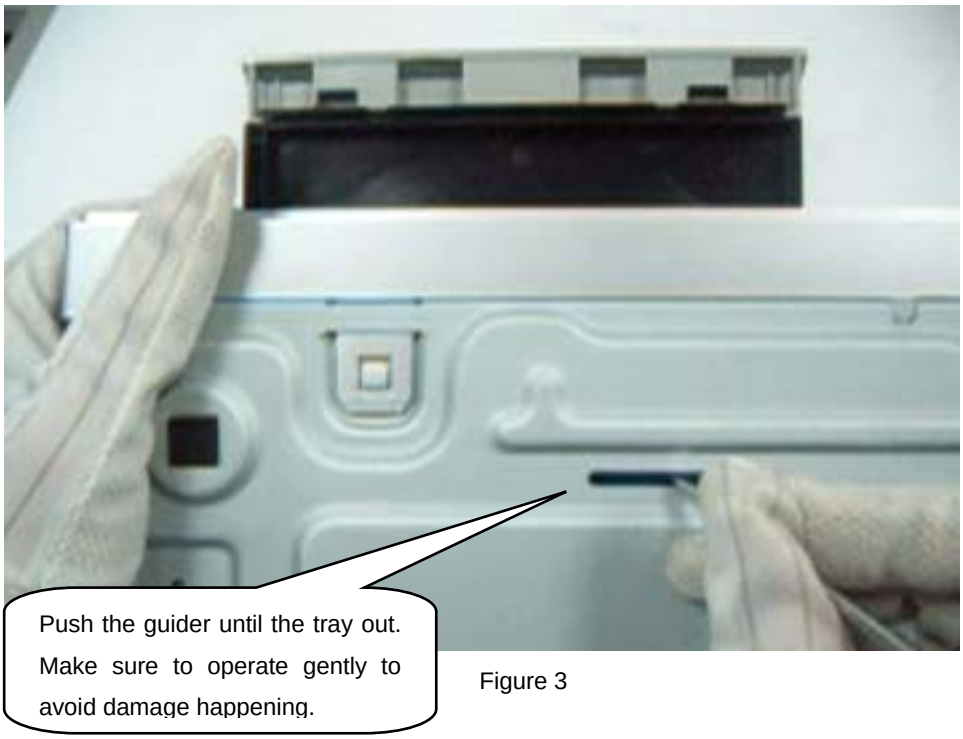


Figure 3

Step4: Dismantling Loader, disconnect the 3 connectors aiming in the below figure, and remove 1 screw around the Loader. (Figure 4)

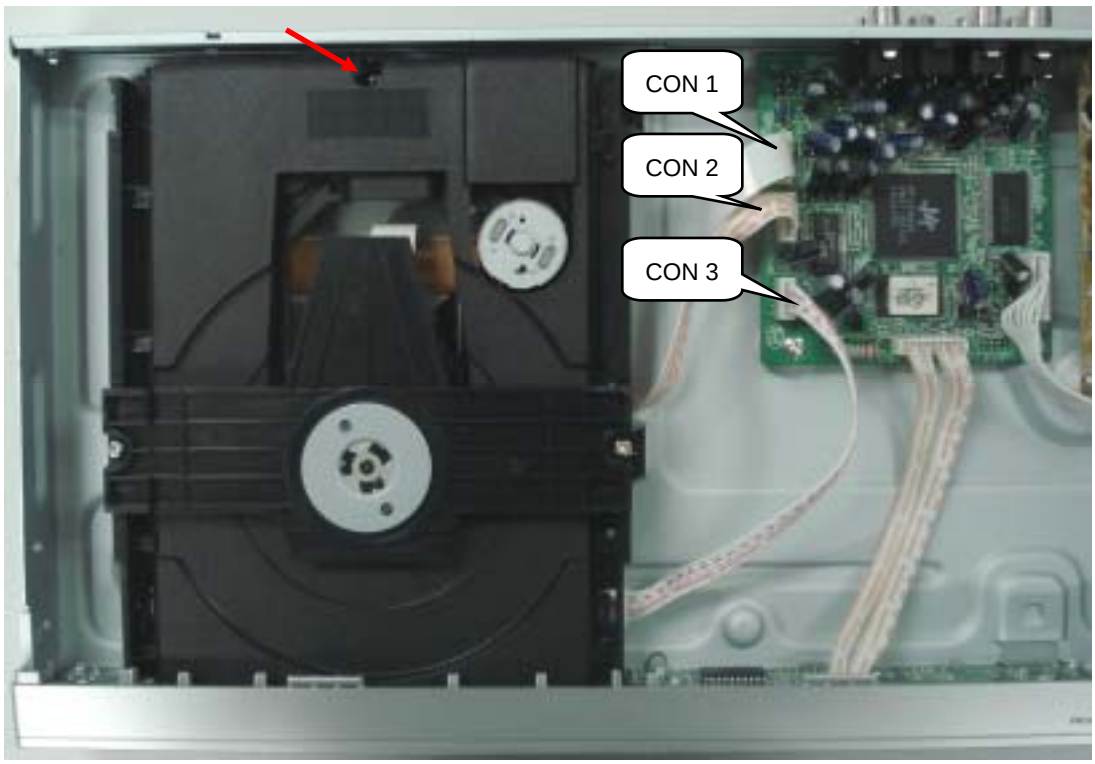


Figure 4

Mechanical and Dismantling Instructions

Dismantling Instruction

Step5: Dismantling Front Panel, disconnect the 3 connector, then release the snaps on the both sides of Front Panel and bottom cabinet , then gently pull the Panel out from the set. (Figure 5 & 6 & 7)

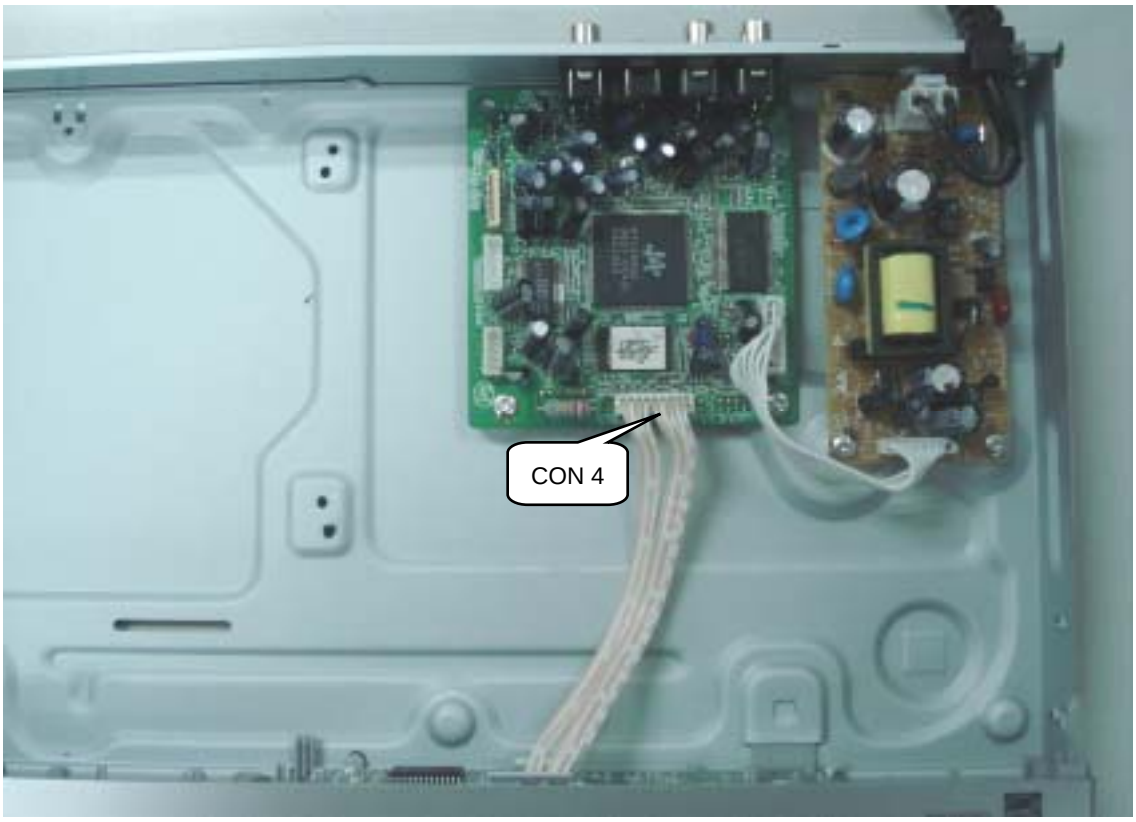


Figure 5

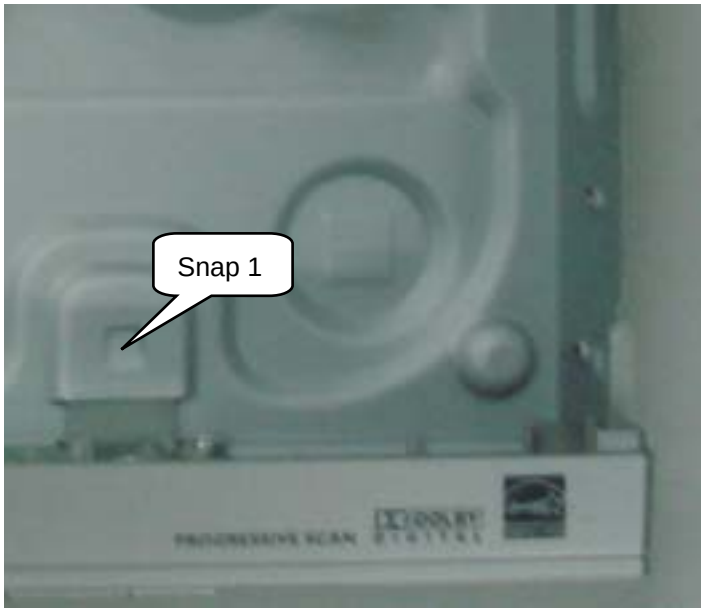


Figure 6

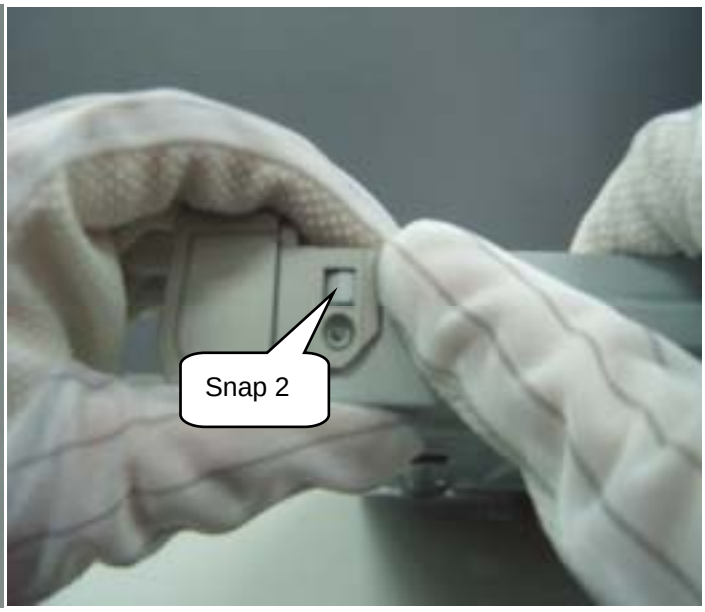


Figure 7

Mechanical and Dismantling Instructions

Dismantling Instruction

Step6: Dismantling Main Board, first disconnect the 1 connector, then remove 4 screws to remove the Main board. (Figure 8)

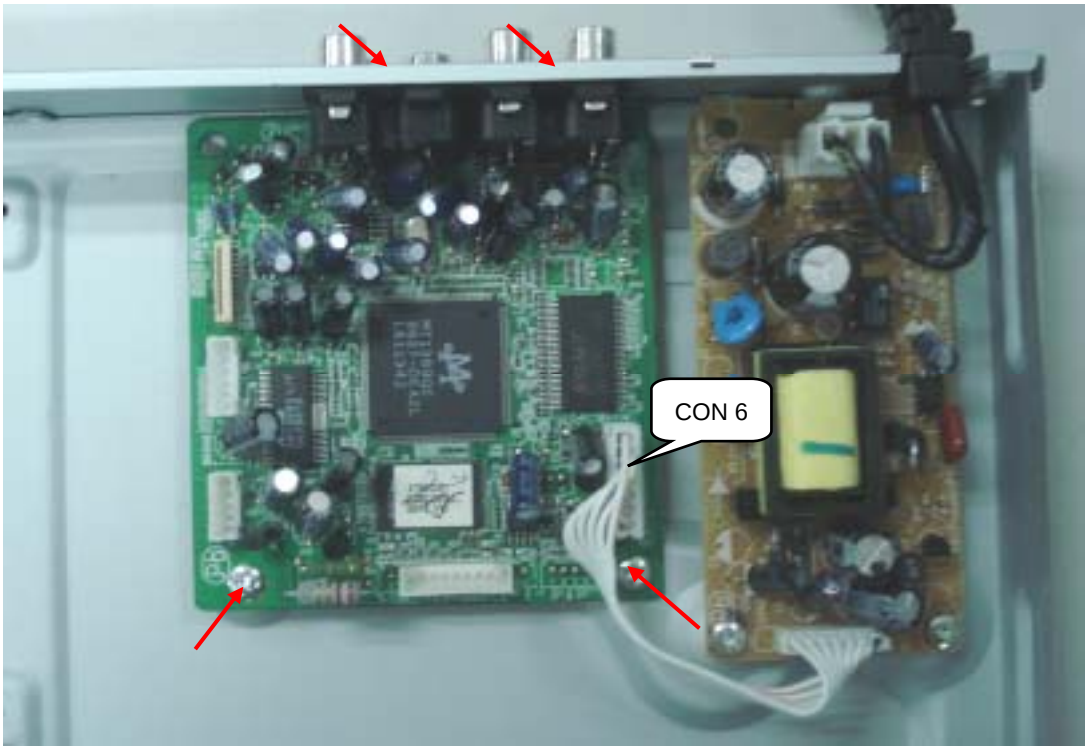


Figure 8

Step7: Remove the 2 screws on Power Board to dismantle the Power Board. (Figure 9)

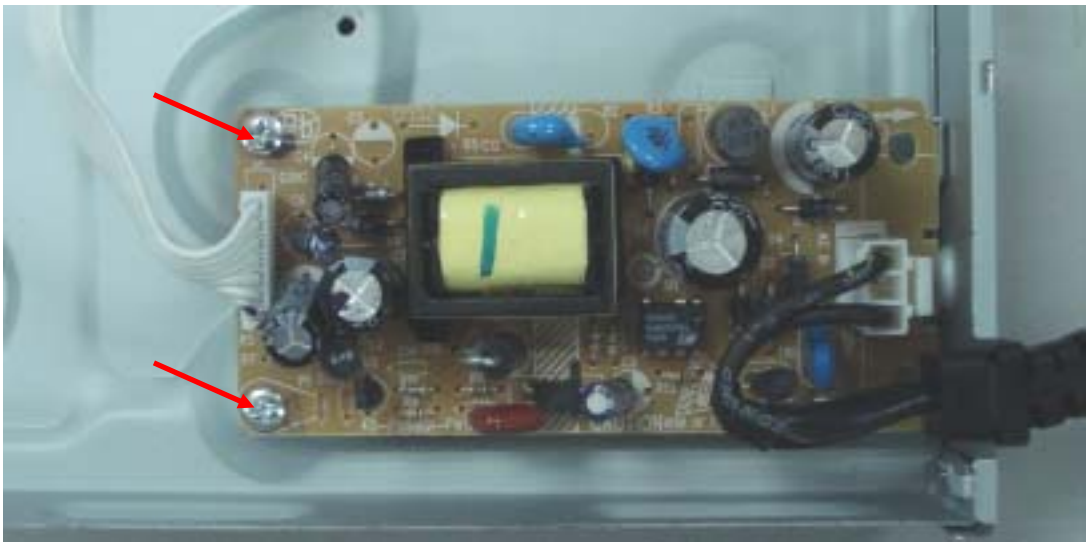


Figure 9

Software upgrade

Preparation to upgrade software

1) Start the CD Burning software and create a new CD project (Data Disc) with the following setting:
   Label: DVP312X (No need the label name)
   File Name: DVPXXXX_XX.BIN
   Power on the set and open the tray, then press <5><5> to check the File Name.

Note: It is required capital letter for the File System name

2) Burn the data onto a blank CDR

A. Procedure for software upgrade:

1) Power on the set and insert the prepared Upgrade CDR.
2) The set will starts reading disc & response with the following display TV screen:
   Upgrade File DETECTED
   Upgrade?
   Press Play TO START.
3) Press <OK> button to confirm, then screen will display :
   Files coping…
   UPGRADING…
4) The upgraded disc will automatically out when files coping complete, then take out the disc.
5) About 1 minute later, the tray will automatically close when upgrading complete.

B. Read out the software versions to confirm upgrading

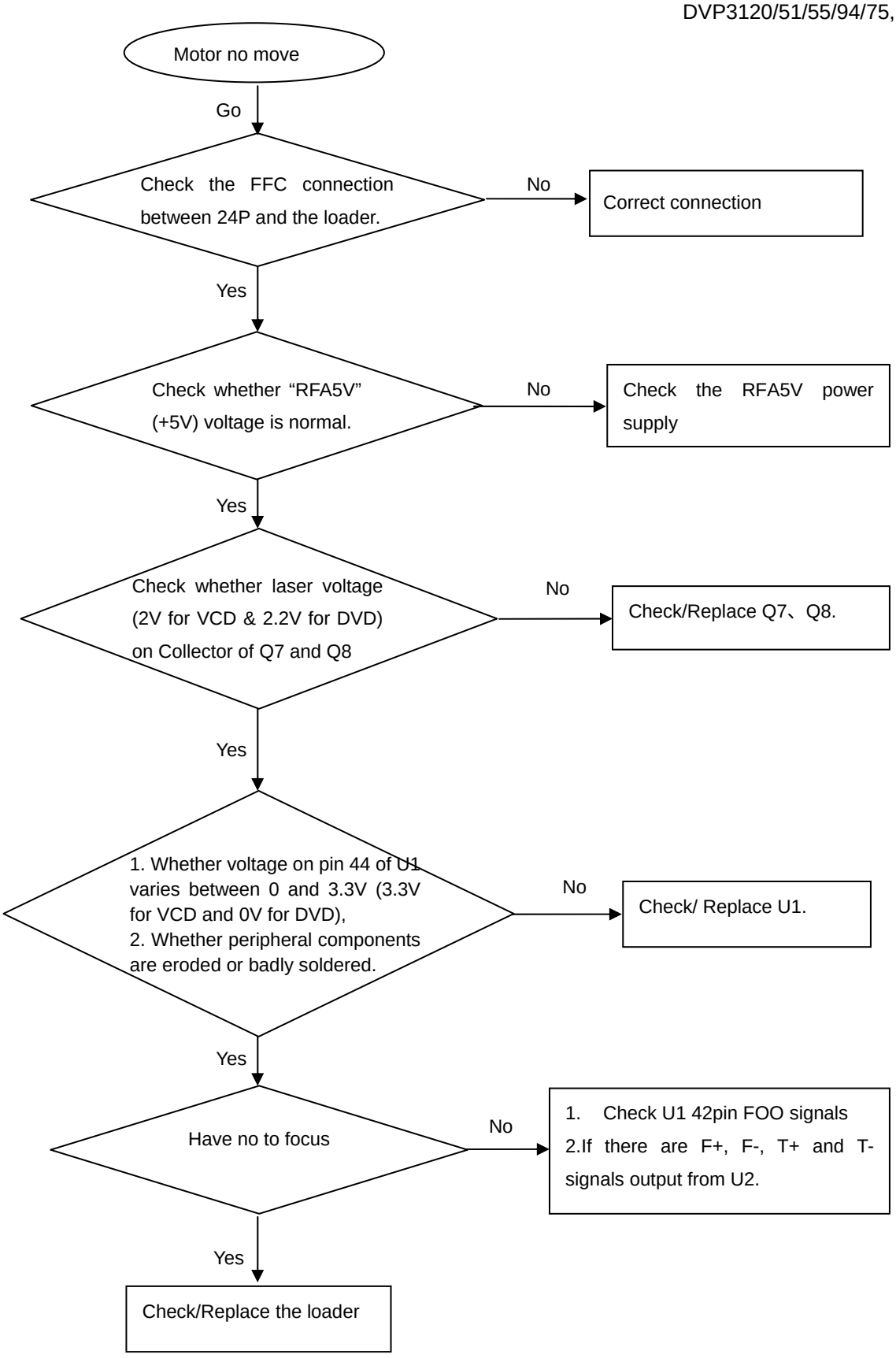
1) Power on the set and press <Setup> button on the remote control.
2) Press<1><3><7><9>button to check the software information.
   The software version and other information are display on the TV screen as follows:

Version	XX.XX.XX.XX (Main version)
SUB-VER	XX.XX.XX.XX (software version of application software)
8032	XX.XX.XX.XX
Servo	XX.XX.XX.XX (software version of Servo)
RISC	XX.XX.XX.XX
DSP	XX.XX.XX.XX
Region Code	X

Caution: The set must not be power off during upgrading, Otherwise the Main board will be damaged entirely.

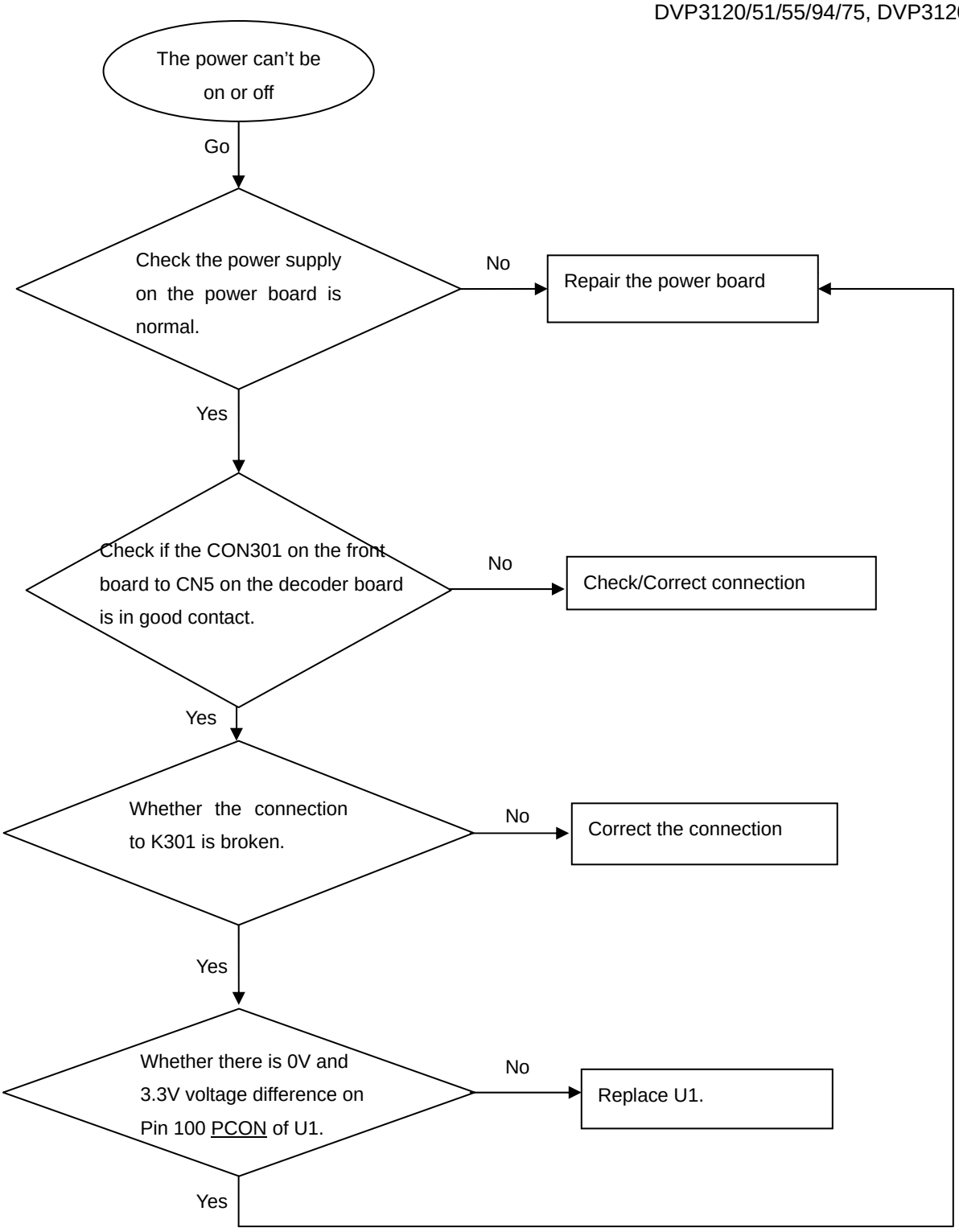
Spindle motor does not move

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


Motor no move
Go
Check the FFC connection between 24P and the loader.
No
Correct connection
Yes
Check whether “RFA5V” (+5V) voltage is normal.
No
Check the RFA5V power supply
Yes
Check whether laser voltage (2V for VCD & 2.2V for DVD) on Collector of Q7 and Q8
No
Check/Replace Q7、Q8.
Yes
1. Whether voltage on pin 44 of U1 varies between 0 and 3.3V (3.3V for VCD and 0V for DVD),
2. Whether peripheral components are eroded or badly soldered.
No
Check/ Replace U1.
Yes
Have no to focus
No
1. Check U1 42pin FOO signals
2.If there are F+, F-, T+ and T- signals output from U2.
Yes
Check/Replace the loader

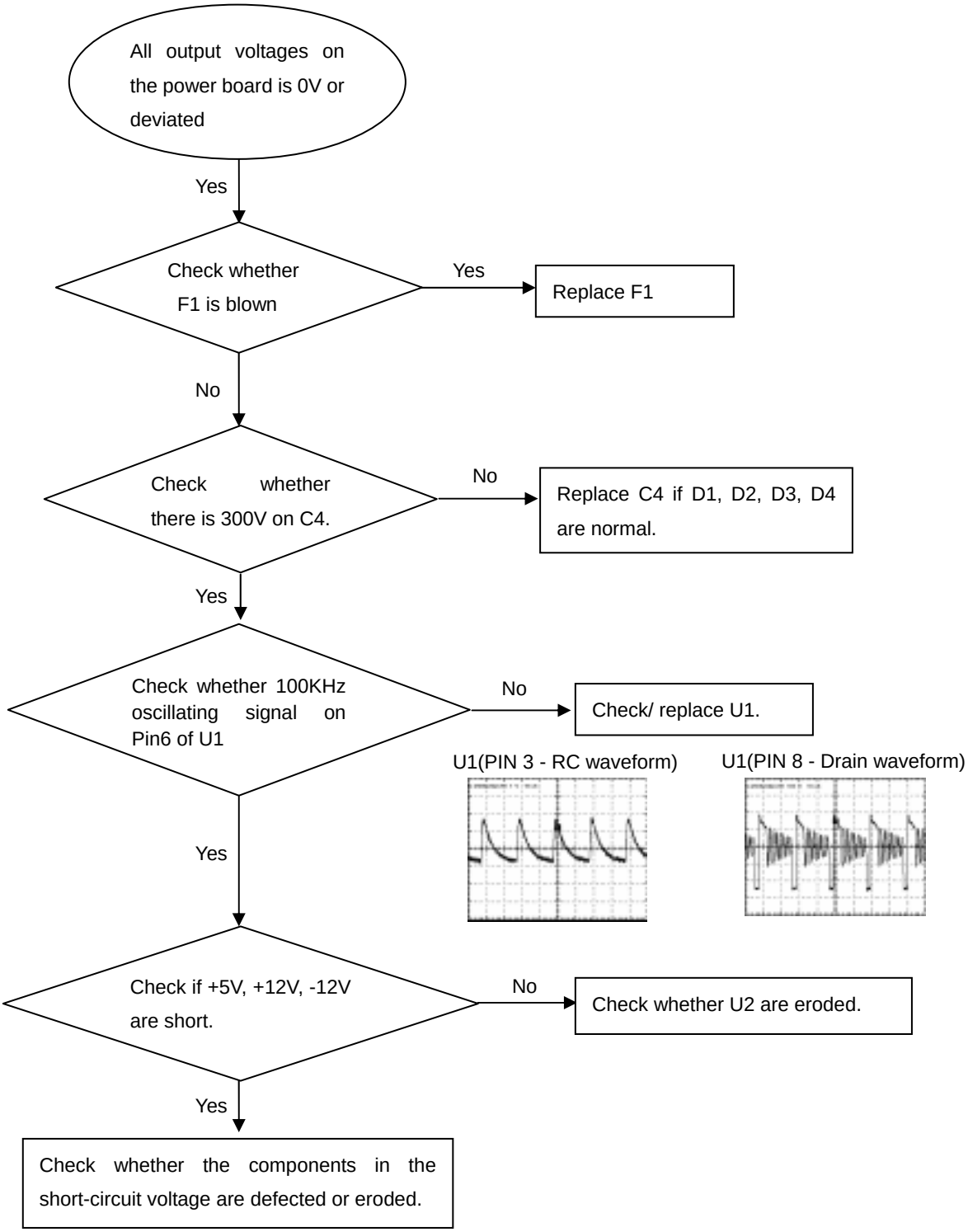
The power can not be on or off

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


The power can't be on or off
Go
Check the power supply on the power board is normal.
No
Repair the power board
Yes
Check if the CON301 on the front board to CN5 on the decoder board is in good contact.
No
Check/Correct connection
Yes
Whether the connection to K301 is broken.
No
Correct the connection
Yes
Whether there is 0V and 3.3V voltage difference on Pin 100 PCON of U1.
No
Replace U1.
Yes

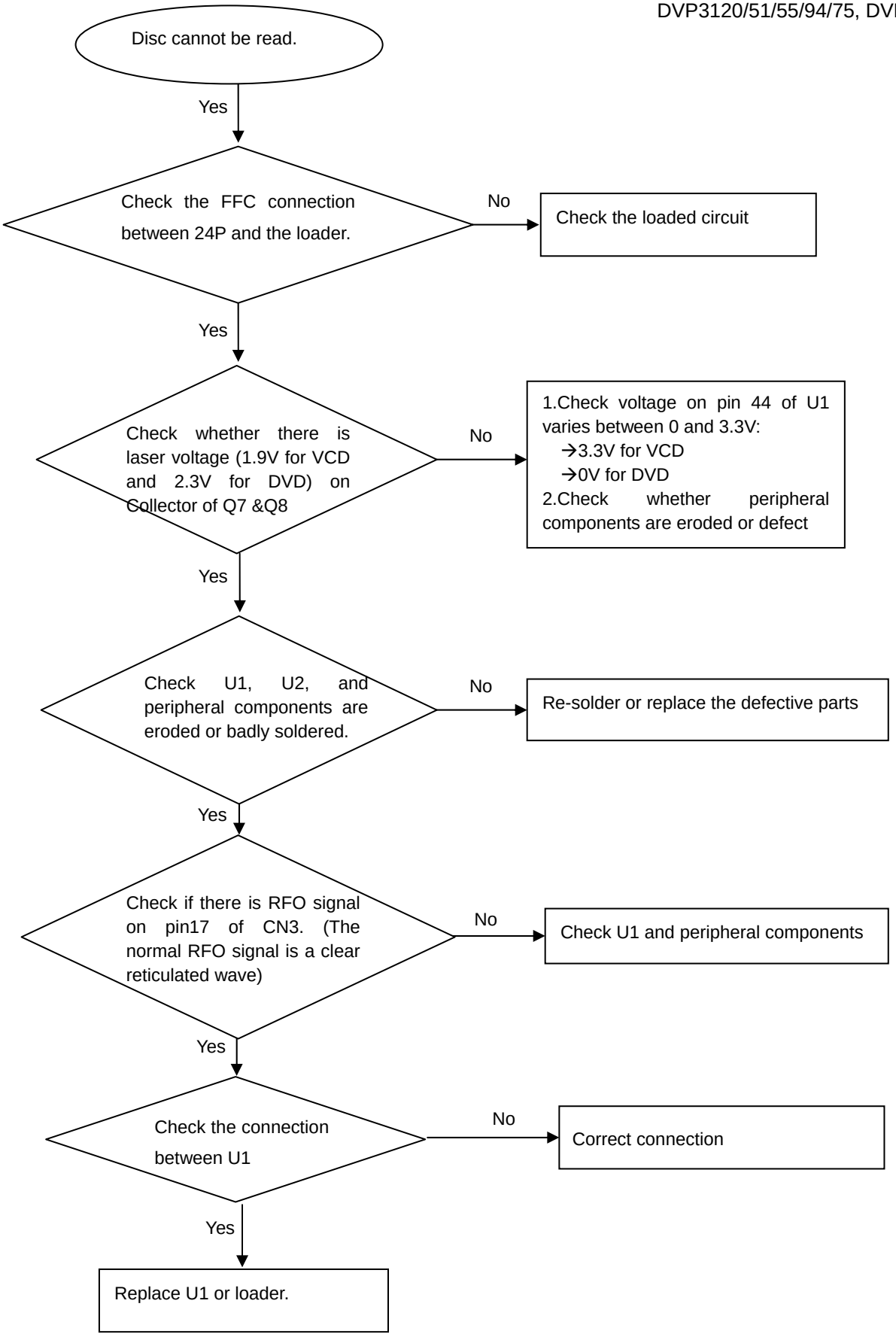
All output voltages on the power board is 0V or deviated.

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


All output voltages on the power board is 0V or deviated
Yes
Check whether F1 is blown
Yes
Replace F1
No
Check whether there is 300V on C4.
No
Replace C4 if D1, D2, D3, D4 are normal.
Yes
Check whether 100KHz oscillating signal on Pin6 of U1
No
Check/ replace U1.
U1(PIN 3 - RC waveform)
U1(PIN 8 - Drain waveform)
Yes
Check if +5V, +12V, -12V are short.
No
Check whether U2 are eroded.
Yes
Check whether the components in the short-circuit voltage are defected or eroded.

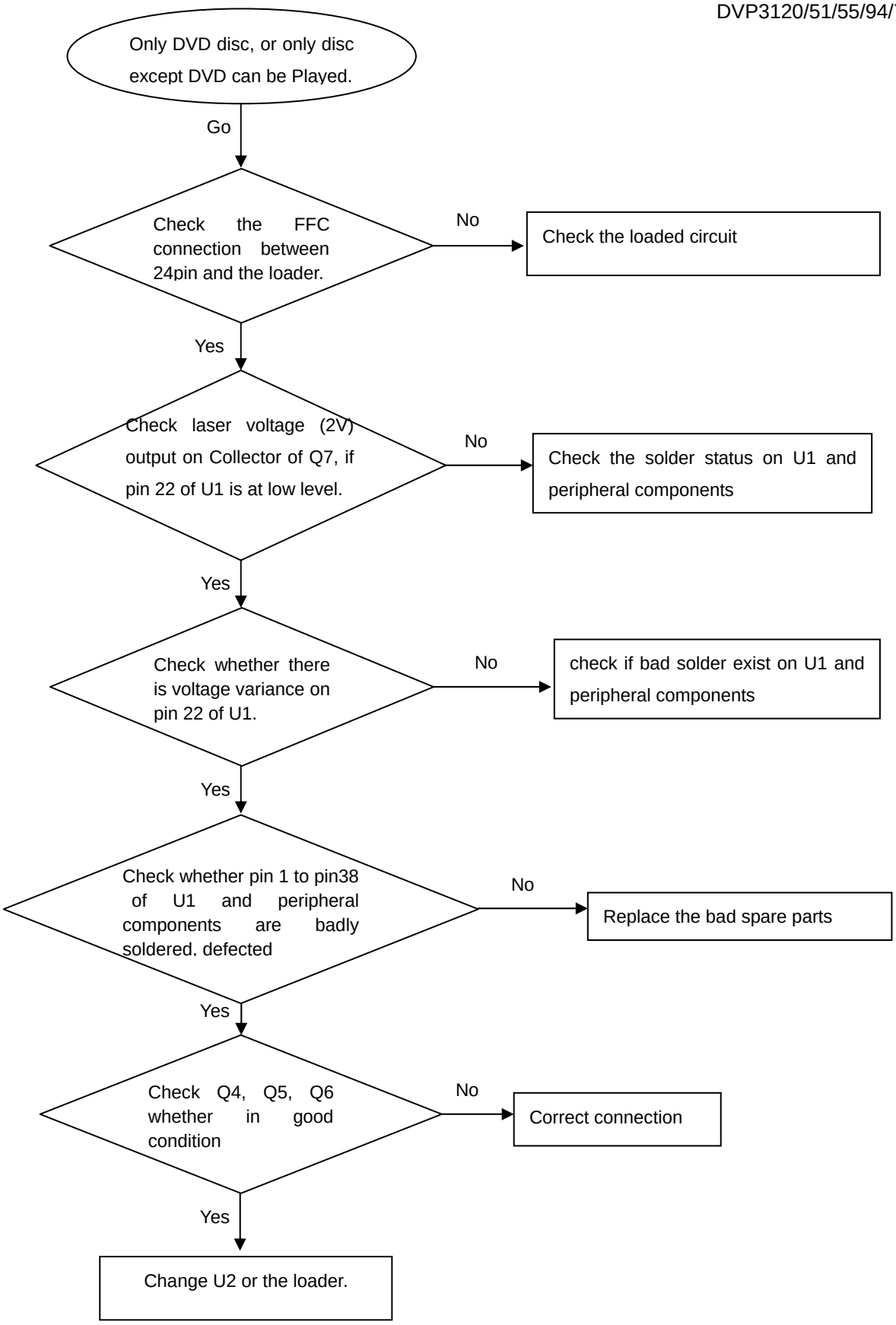
Disc cannot be read.

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


Disc cannot be read.
Yes
Check the FFC connection between 24P and the loader.
No
Check the loaded circuit
Yes
Check whether there is laser voltage (1.9V for VCD and 2.3V for DVD) on Collector of Q7 &Q8
No
1.Check voltage on pin 44 of U1 varies between 0 and 3.3V:
→3.3V for VCD
→0V for DVD
2.Check whether peripheral components are eroded or defect
Yes
Check U1, U2, and peripheral components are eroded or badly soldered.
No
Re-solder or replace the defective parts
Yes
Check if there is RFO signal on pin17 of CN3. (The normal RFO signal is a clear reticulated wave)
No
Check U1 and peripheral components
Yes
Check the connection between U1
No
Correct connection
Yes
Replace U1 or loader.

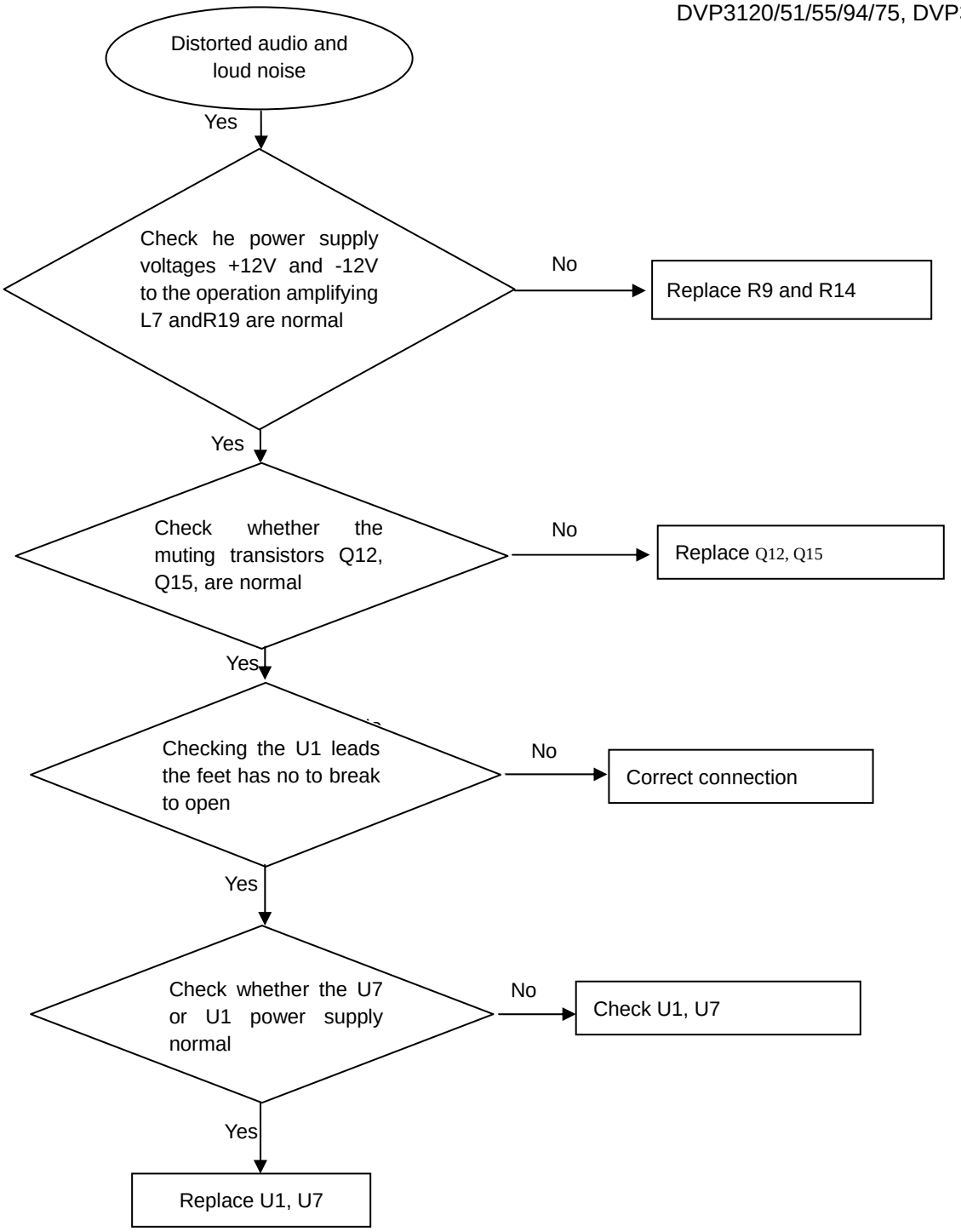
Only DVD disc or only disc except DVD can be played

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


Only DVD disc, or only disc except DVD can be Played.
Go
Check the FFC connection between 24pin and the loader.
No
Check the loaded circuit
Yes
Check laser voltage (2V) output on Collector of Q7, if pin 22 of U1 is at low level.
No
Check the solder status on U1 and peripheral components
Yes
Check whether there is voltage variance on pin 22 of U1.
No
check if bad solder exist on U1 and peripheral components
Yes
Check whether pin 1 to pin38 of U1 and peripheral components are badly soldered, defected
No
Replace the bad spare parts
Yes
Check Q4, Q5, Q6 whether in good condition
No
Correct connection
Yes
Change U2 or the loader.

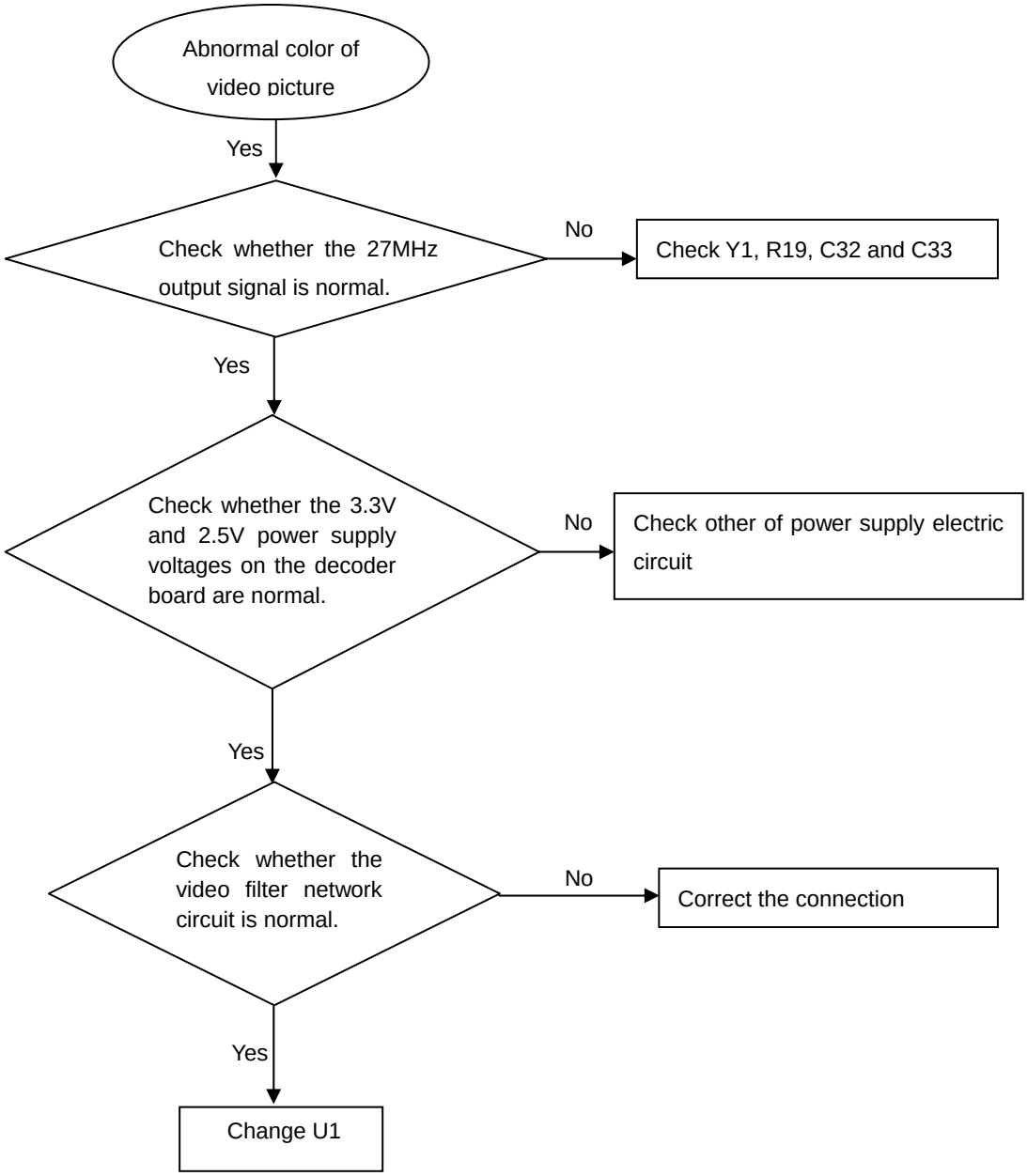
Distorted audio and loud noise

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55



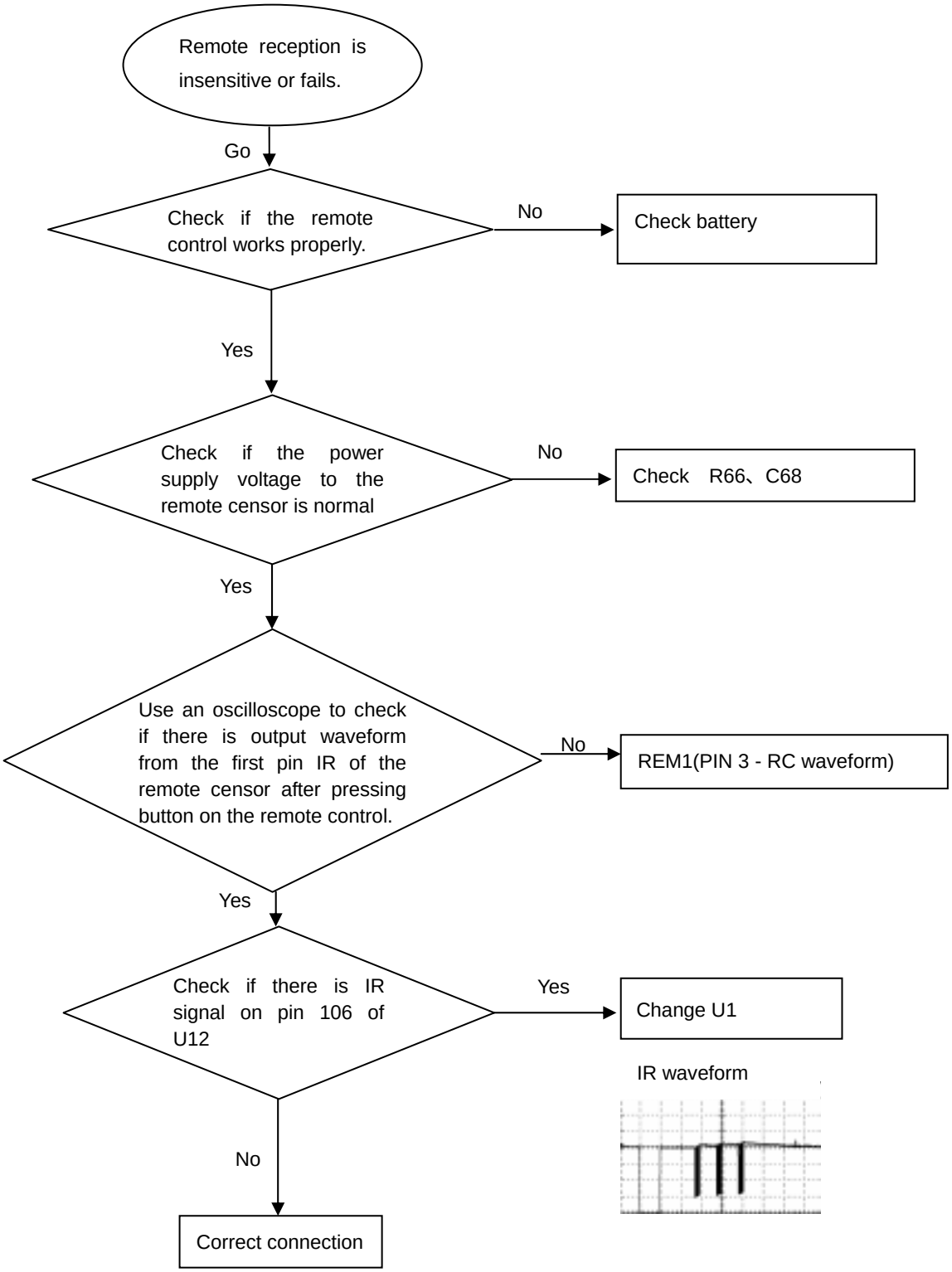
Abnormal color of video picture

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


Abnormal color of video picture
Yes
Check whether the 27MHz output signal is normal.
No
Check Y1, R19, C32 and C33
Yes
Check whether the 3.3V and 2.5V power supply voltages on the decoder board are normal.
No
Check other of power supply electric circuit
Yes
Check whether the video filter network circuit is normal.
No
Correct the connection
Yes
Change U1

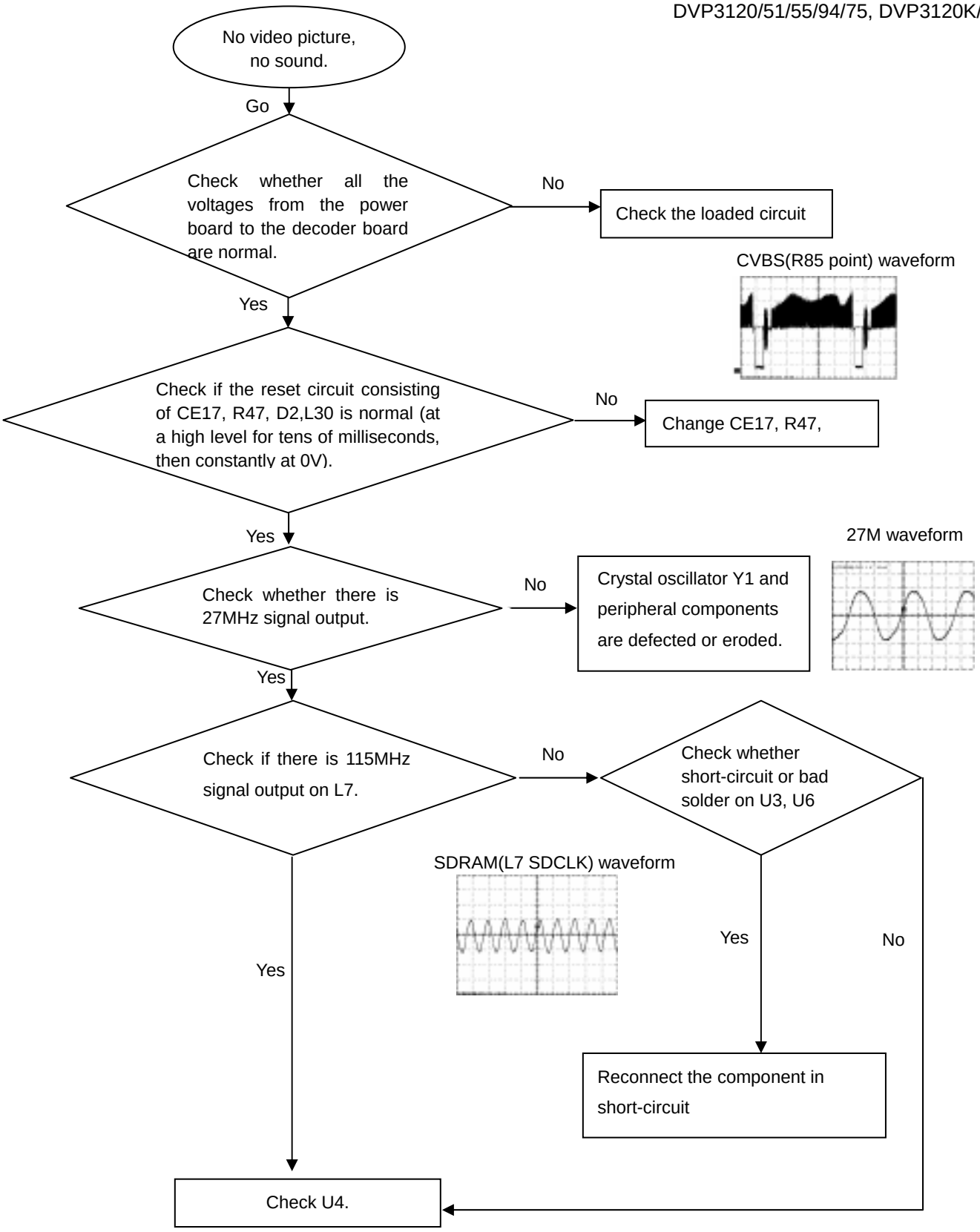
Remote reception is insensitive or fails.

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


Remote reception is insensitive or fails.
Go
Check if the remote control works properly.
No
Check battery
Yes
Check if the power supply voltage to the remote censor is normal
No
Check R66、C68
Yes
Use an oscilloscope to check if there is output waveform from the first pin IR of the remote censor after pressing button on the remote control.
No
REM1(PIN 3 - RC waveform)
Yes
Check if there is IR signal on pin 106 of U12
Yes
Change U1
IR waveform
No
Correct connection

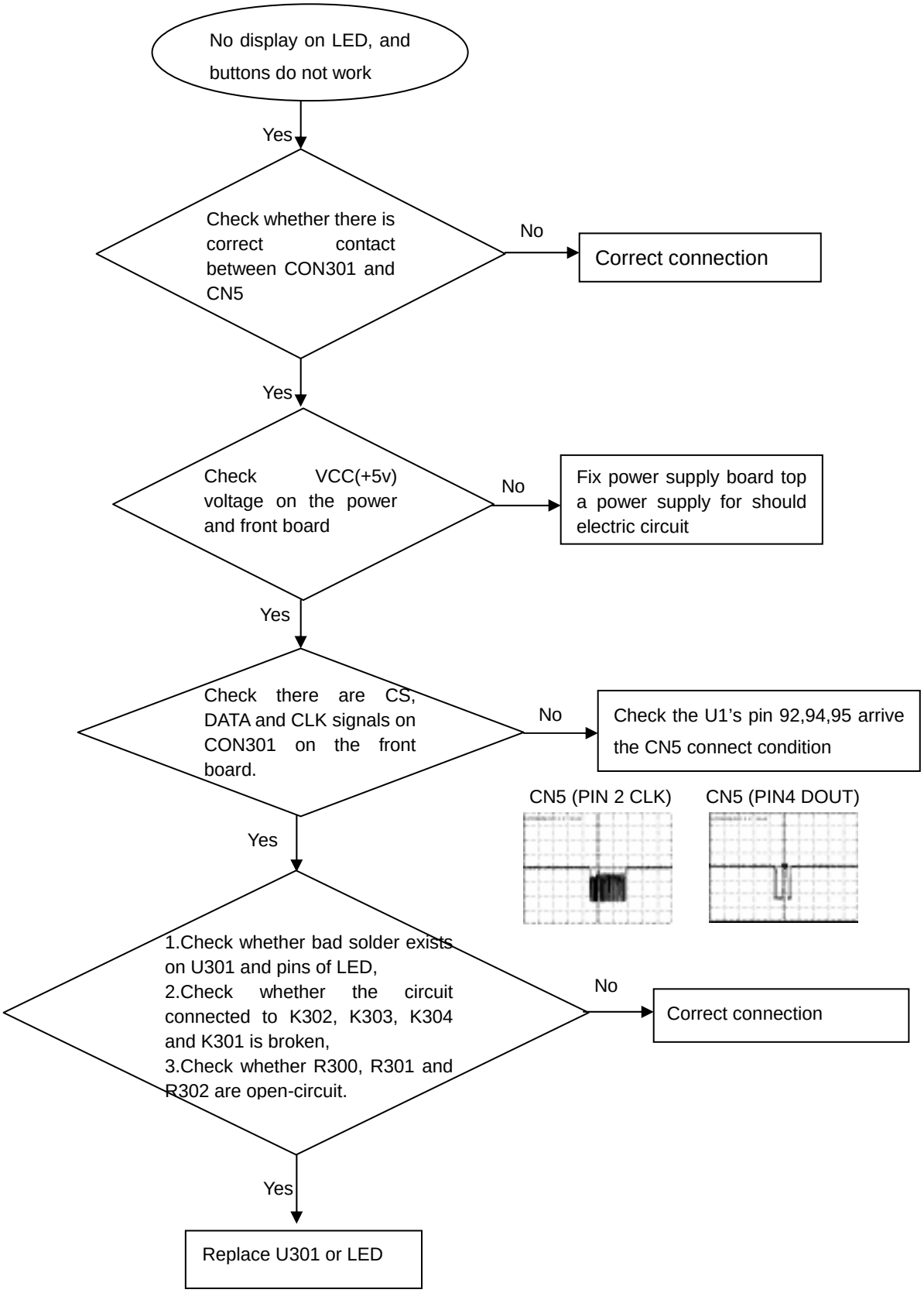
No video picture, no sound.

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


No video picture, no sound.
Go
Check whether all the voltages from the power board to the decoder board are normal.
No
Check the loaded circuit
CVBS(R85 point) waveform
Yes
Check if the reset circuit consisting of CE17, R47, D2,L30 is normal (at a high level for tens of milliseconds, then constantly at 0V).
No
Change CE17, R47,
Yes
27M waveform
Check whether there is 27MHz signal output.
No
Crystal oscillator Y1 and peripheral components are defected or eroded.
Yes
Check if there is 115MHz signal output on L7.
No
Check whether short-circuit or bad solder on U3, U6
SDRAM(L7 SDCLK) waveform
Yes
No
Yes
Reconnect the component in short-circuit
Check U4.

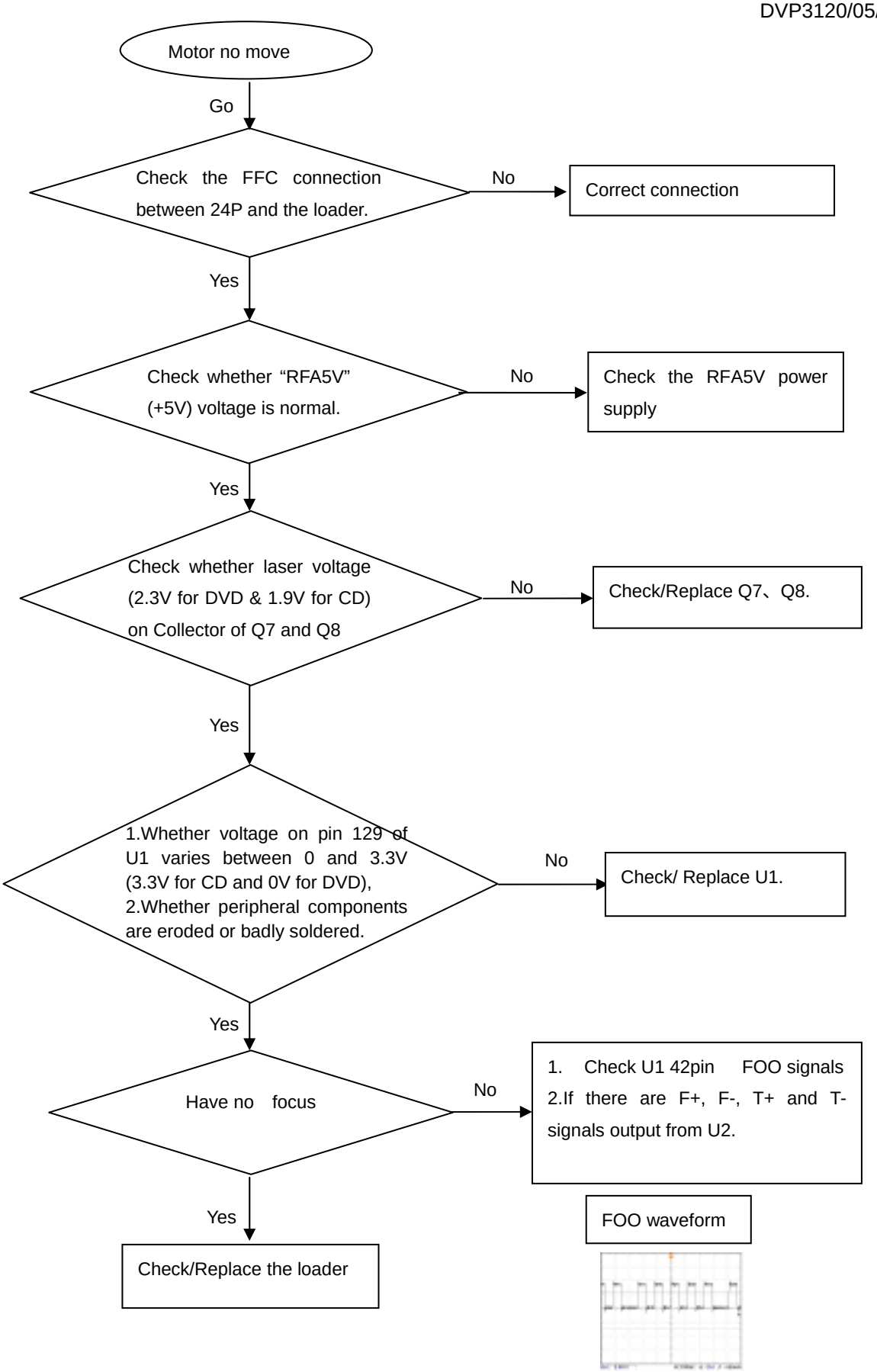
No display on LED, and buttons do not work

Remark: Trouble shooting chart for DVP3120/51/55/94/75, DVP3120K/55


No display on LED, and buttons do not work
Yes
Check whether there is correct contact between CON301 and CN5
No
Correct connection
Yes
Check VCC(+5v) voltage on the power and front board
No
Fix power supply board top a power supply for should electric circuit
Yes
Check there are CS, DATA and CLK signals on CON301 on the front board.
No
Check the U1's pin 92,94,95 arrive the CN5 connect condition
CN5 (PIN 2 CLK)
CN5 (PIN4 DOUT)
Yes
1.Check whether bad solder exists on U301 and pins of LED,
2.Check whether the circuit connected to K302, K303, K304 and K301 is broken,
3.Check whether R300, R301 and R302 are open-circuit.
No
Correct connection
Yes
Replace U301 or LED

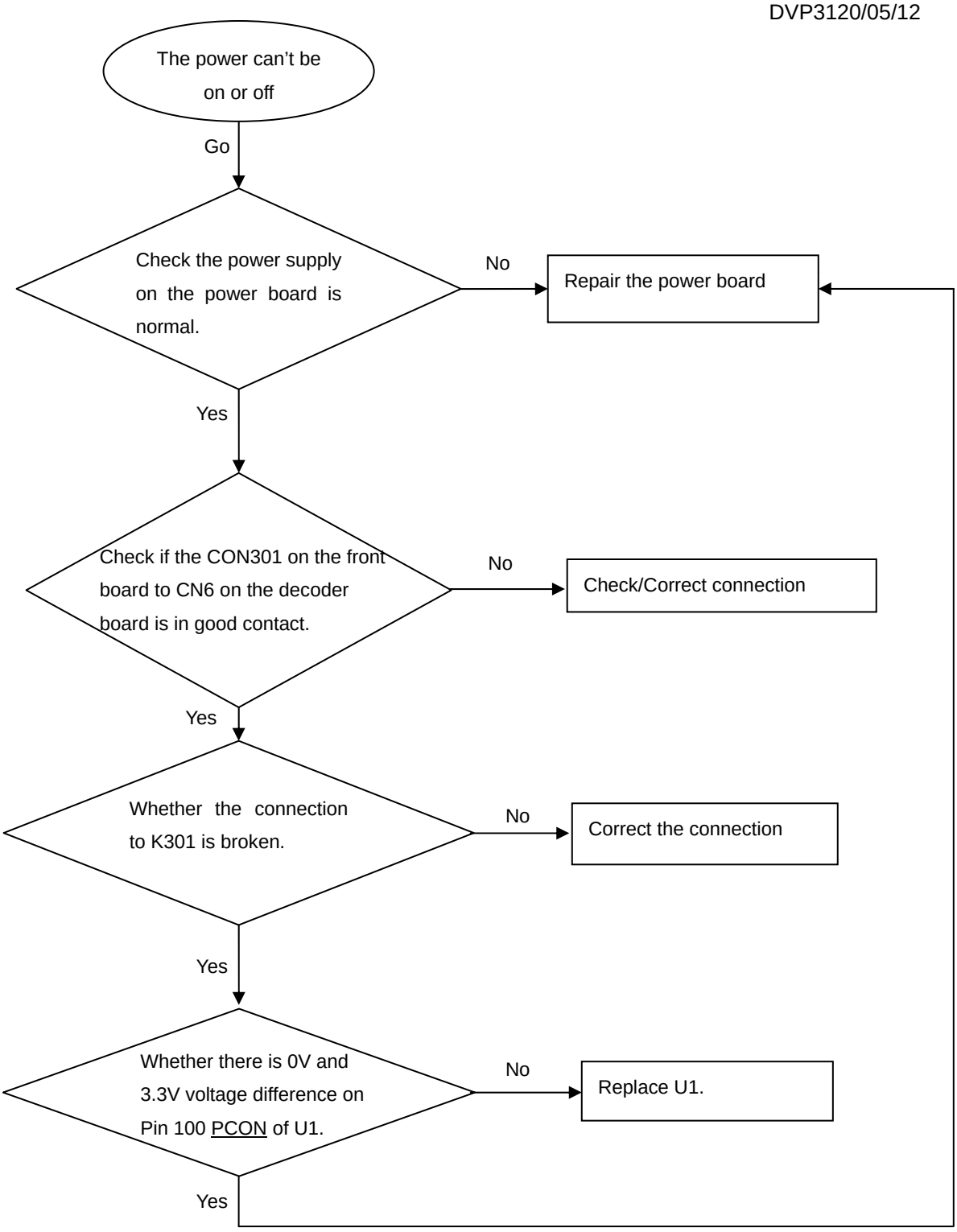
Spindle motor does not move

Remark: Trouble shooting chart for DVP3120/05/12


Motor no move
Go
Check the FFC connection between 24P and the loader.
No
Correct connection
Yes
Check whether “RFA5V” (+5V) voltage is normal.
No
Check the RFA5V power supply
Yes
Check whether laser voltage (2.3V for DVD & 1.9V for CD) on Collector of Q7 and Q8
No
Check/Replace Q7、Q8.
Yes
1.Whether voltage on pin 129 of U1 varies between 0 and 3.3V (3.3V for CD and 0V for DVD),
2.Whether peripheral components are eroded or badly soldered.
No
Check/ Replace U1.
Yes
Have no focus
No
1. Check U1 42pin FOO signals
2.If there are F+, F-, T+ and T- signals output from U2.
FOO waveform
Yes
Check/Replace the loader

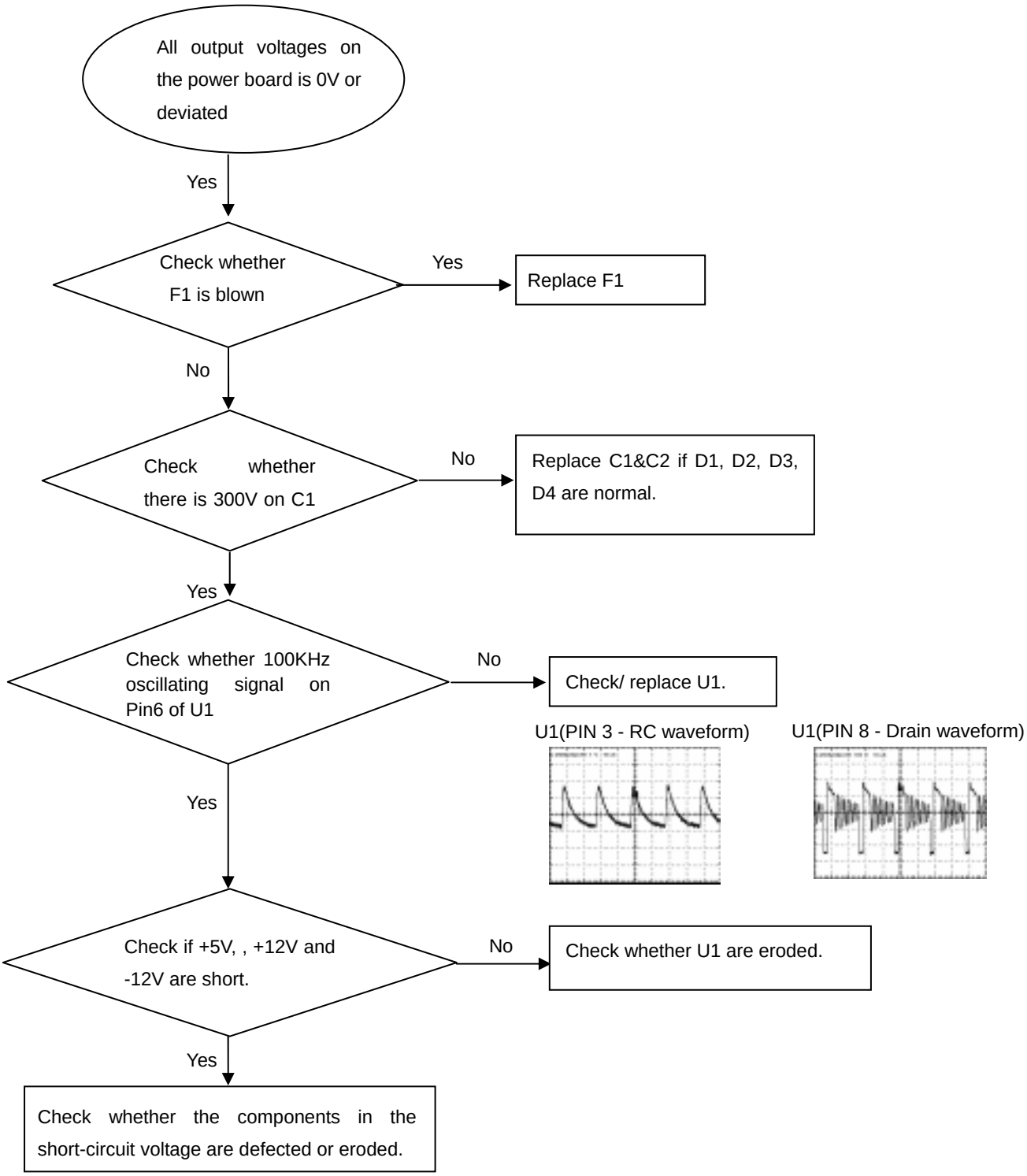
The power can not be on or off

Remark: Trouble shooting chart for DVP3120/05/12


The power can't be on or off
Go
Check the power supply on the power board is normal.
No
Repair the power board
Yes
Check if the CON301 on the front board to CN6 on the decoder board is in good contact.
No
Check/Correct connection
Yes
Whether the connection to K301 is broken.
No
Correct the connection
Yes
Whether there is 0V and 3.3V voltage difference on Pin 100 PCON of U1.
No
Replace U1.
Yes

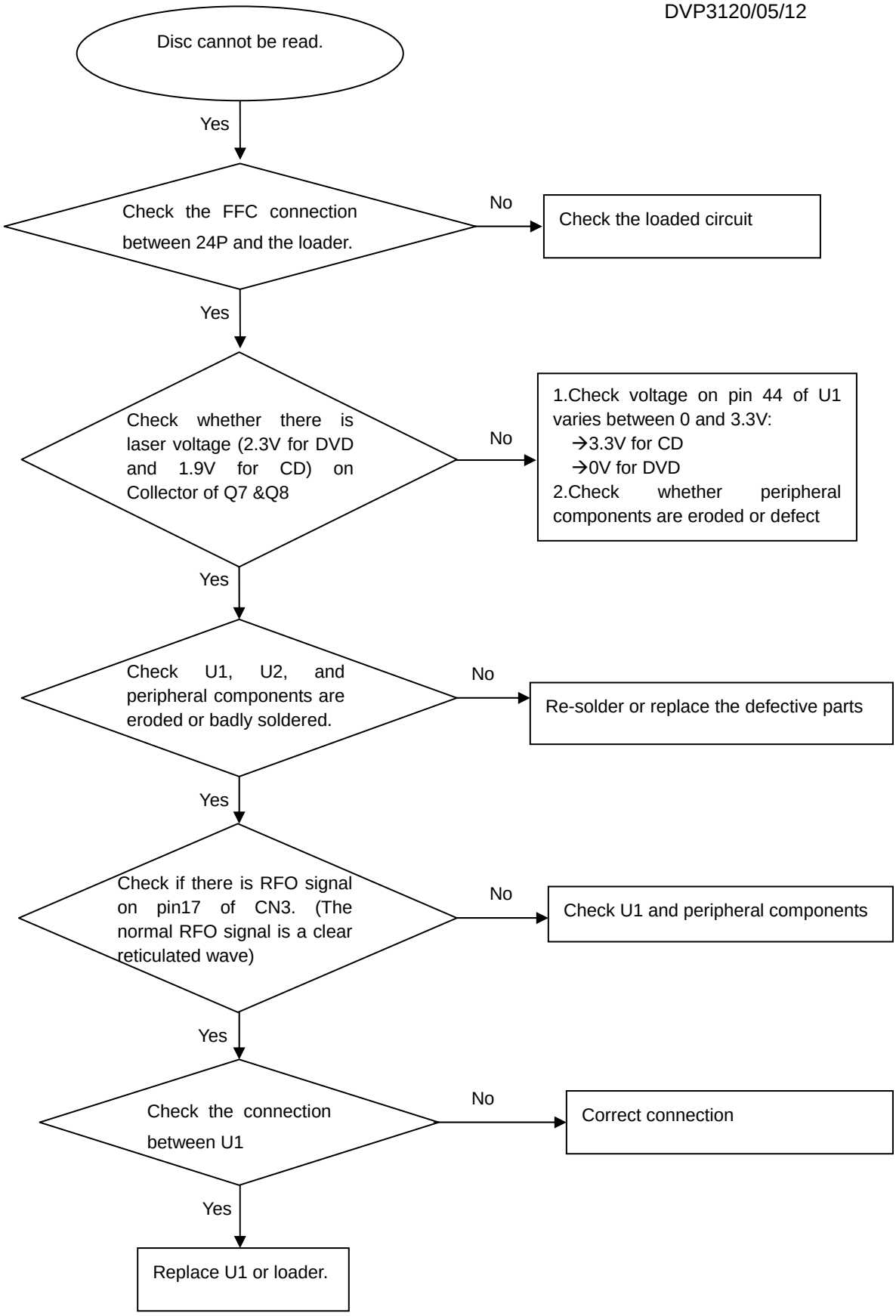
All output voltages on the power board is 0V or deviated.

Remark: Trouble shooting chart for DVP3120/05/12


All output voltages on the power board is 0V or deviated
Yes
Check whether F1 is blown
Yes
Replace F1
No
Check whether there is 300V on C1
No
Replace C1&C2 if D1, D2, D3, D4 are normal.
Yes
Check whether 100KHz oscillating signal on Pin6 of U1
No
Check/ replace U1.
U1(PIN 3 - RC waveform)
U1(PIN 8 - Drain waveform)
Yes
Check if +5V, , +12V and -12V are short.
No
Check whether U1 are eroded.
Yes
Check whether the components in the short-circuit voltage are defected or eroded.

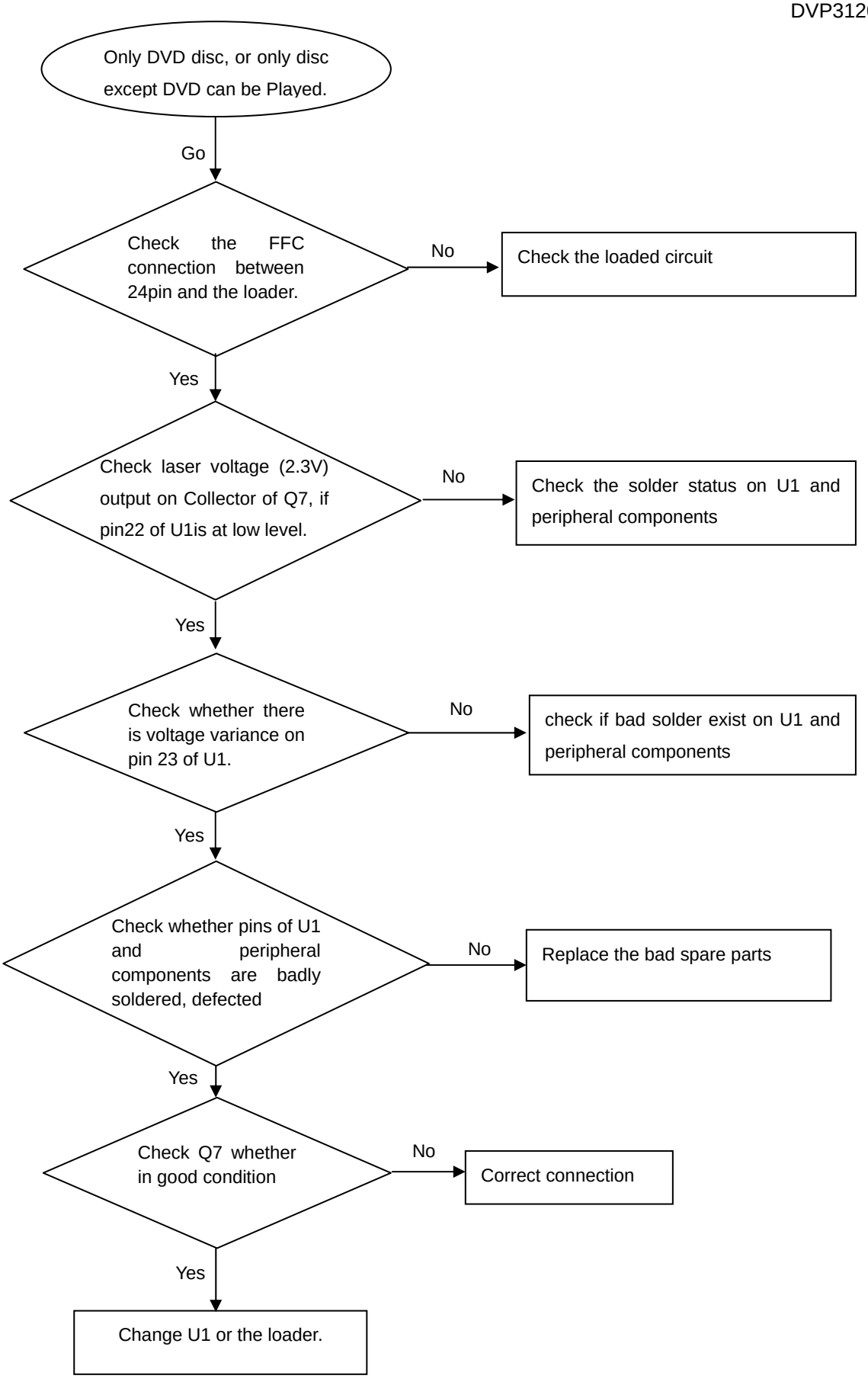
Disc cannot be read.

Remark: Trouble shooting chart for DVP3120/05/12


Disc cannot be read.
Yes
Check the FFC connection between 24P and the loader.
No
Check the loaded circuit
Yes
Check whether there is laser voltage (2.3V for DVD and 1.9V for CD) on Collector of Q7 &Q8
No
1.Check voltage on pin 44 of U1 varies between 0 and 3.3V:
→3.3V for CD
→0V for DVD
2.Check whether peripheral components are eroded or defect
Yes
Check U1, U2, and peripheral components are eroded or badly soldered.
No
Re-solder or replace the defective parts
Yes
Check if there is RFO signal on pin17 of CN3. (The normal RFO signal is a clear reticulated wave)
No
Check U1 and peripheral components
Yes
Check the connection between U1
No
Correct connection
Yes
Replace U1 or loader.

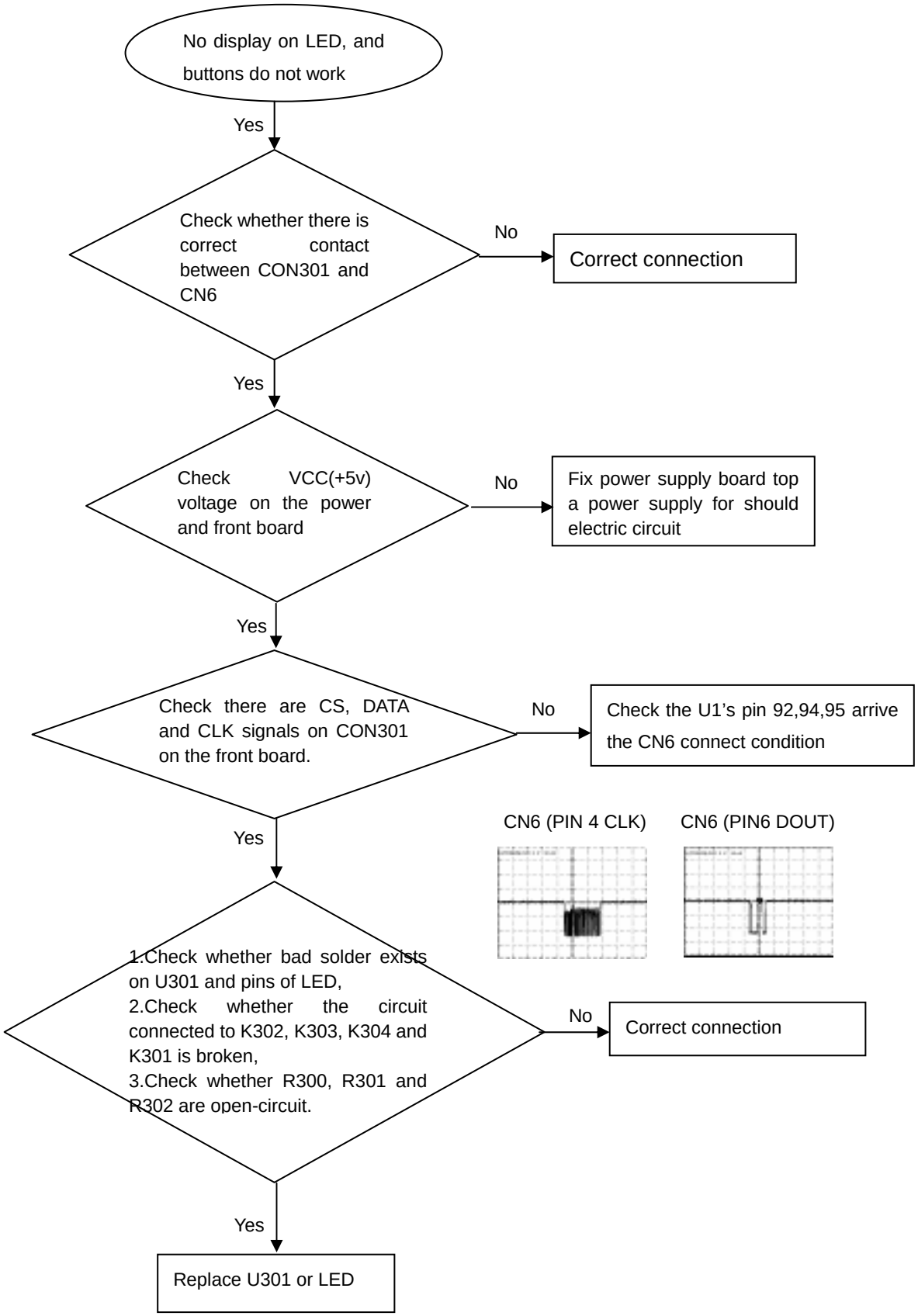
Only DVD disc or only disc except DVD can be played

Remark: Trouble shooting chart for DVP3120/05/12


Only DVD disc, or only disc except DVD can be Played.
Go
Check the FFC connection between 24pin and the loader.
No
Check the loaded circuit
Yes
Check laser voltage (2.3V) output on Collector of Q7, if pin22 of U1is at low level.
No
Check the solder status on U1 and peripheral components
Yes
Check whether there is voltage variance on pin 23 of U1.
No
check if bad solder exist on U1 and peripheral components
Yes
Check whether pins of U1 and peripheral components are badly soldered, defected
No
Replace the bad spare parts
Yes
Check Q7 whether in good condition
No
Correct connection
Yes
Change U1 or the loader.

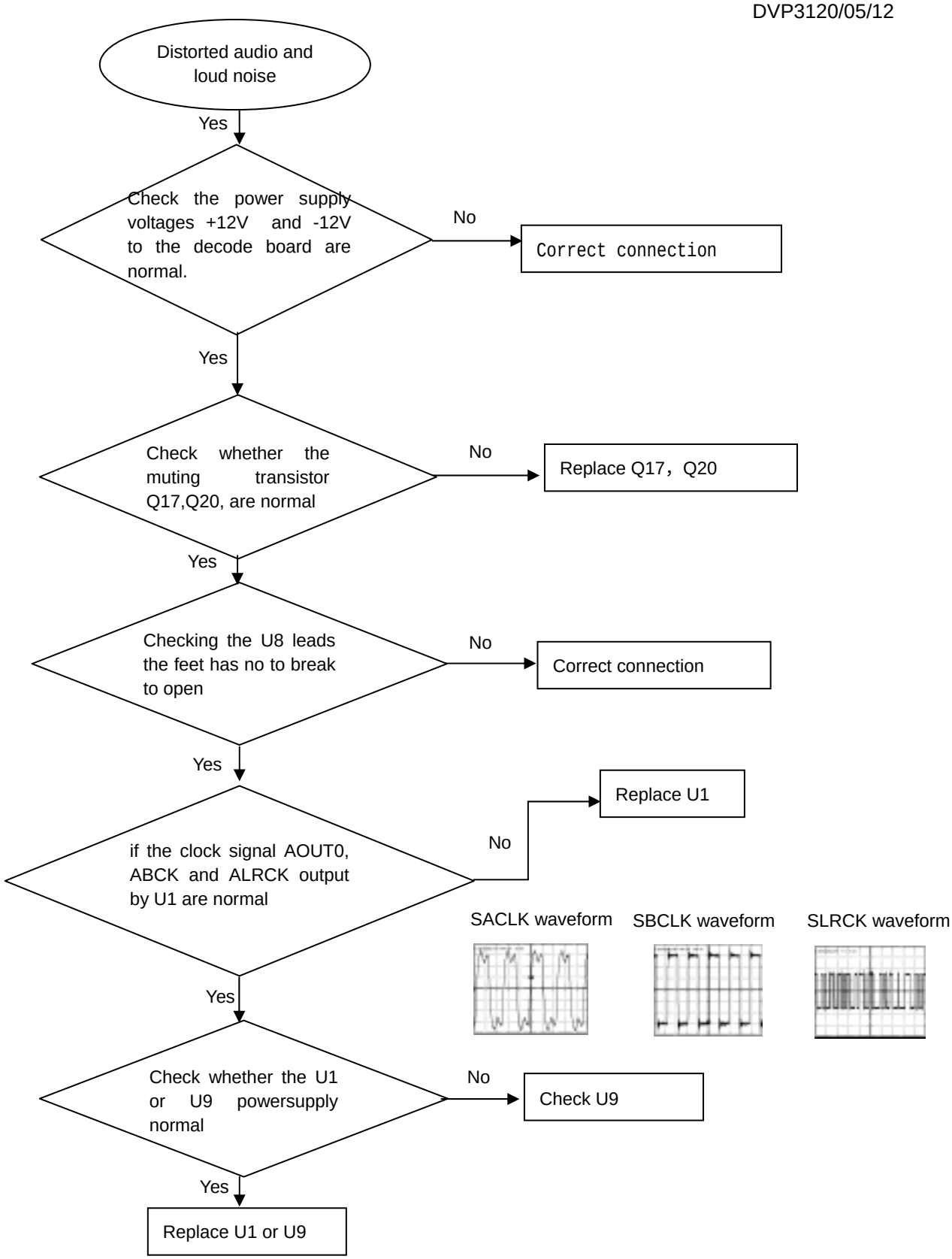
No display on LED, and buttons do not work

Remark: Trouble shooting chart for DVP3120/05/12


No display on LED, and buttons do not work
Yes
Check whether there is correct contact between CON301 and CN6
No
Correct connection
Yes
Check VCC(+5v) voltage on the power and front board
No
Fix power supply board top a power supply for should electric circuit
Yes
Check there are CS, DATA and CLK signals on CON301 on the front board.
No
Check the U1's pin 92,94,95 arrive the CN6 connect condition
CN6 (PIN 4 CLK)
CN6 (PIN6 DOUT)
Yes
1.Check whether bad solder exists on U301 and pins of LED,
2.Check whether the circuit connected to K302, K303, K304 and K301 is broken,
3.Check whether R300, R301 and R302 are open-circuit.
No
Correct connection
Yes
Replace U301 or LED

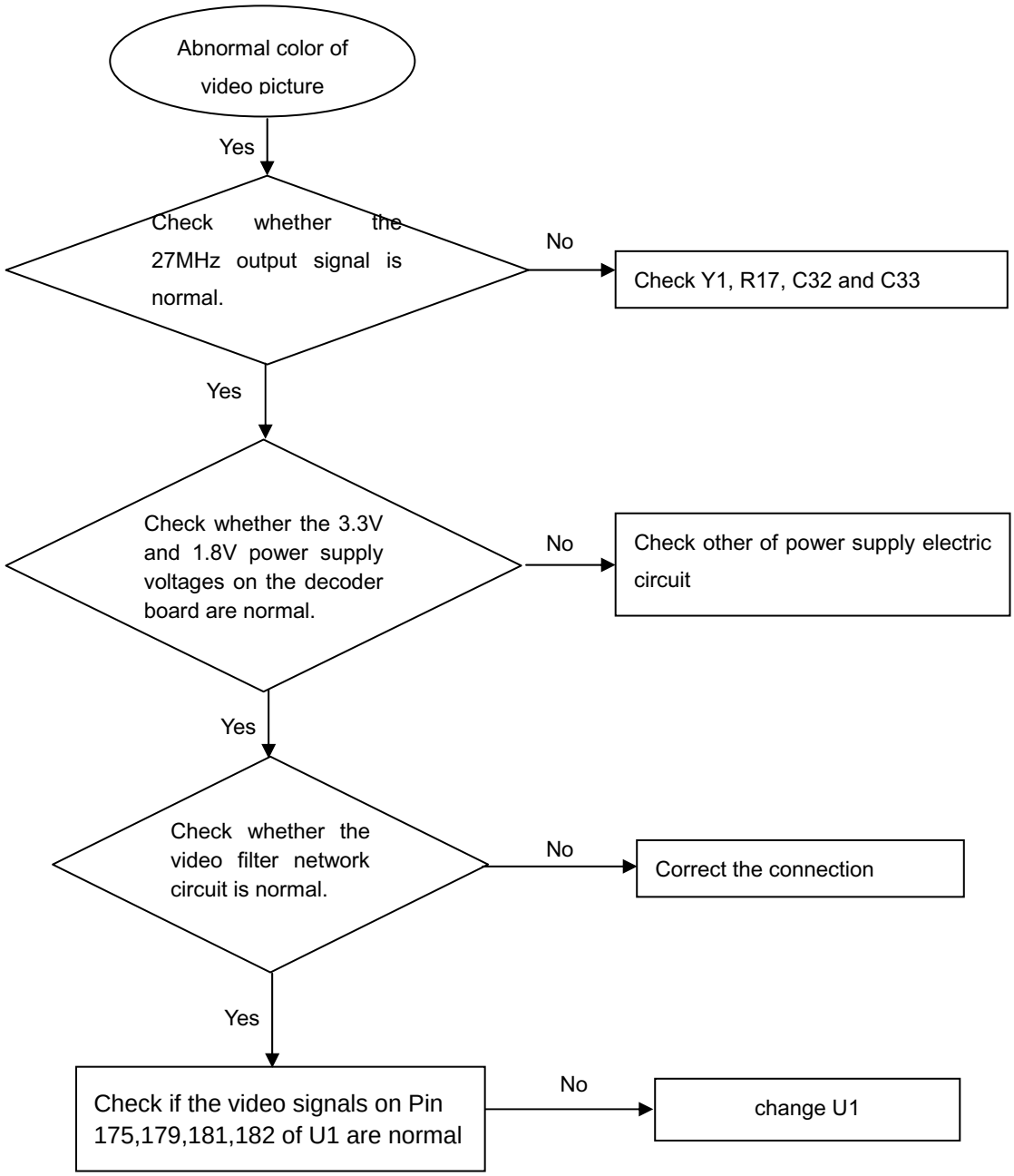
istorted audio and loud noise

Remark: Trouble shooting chart for DVP3120/05/12



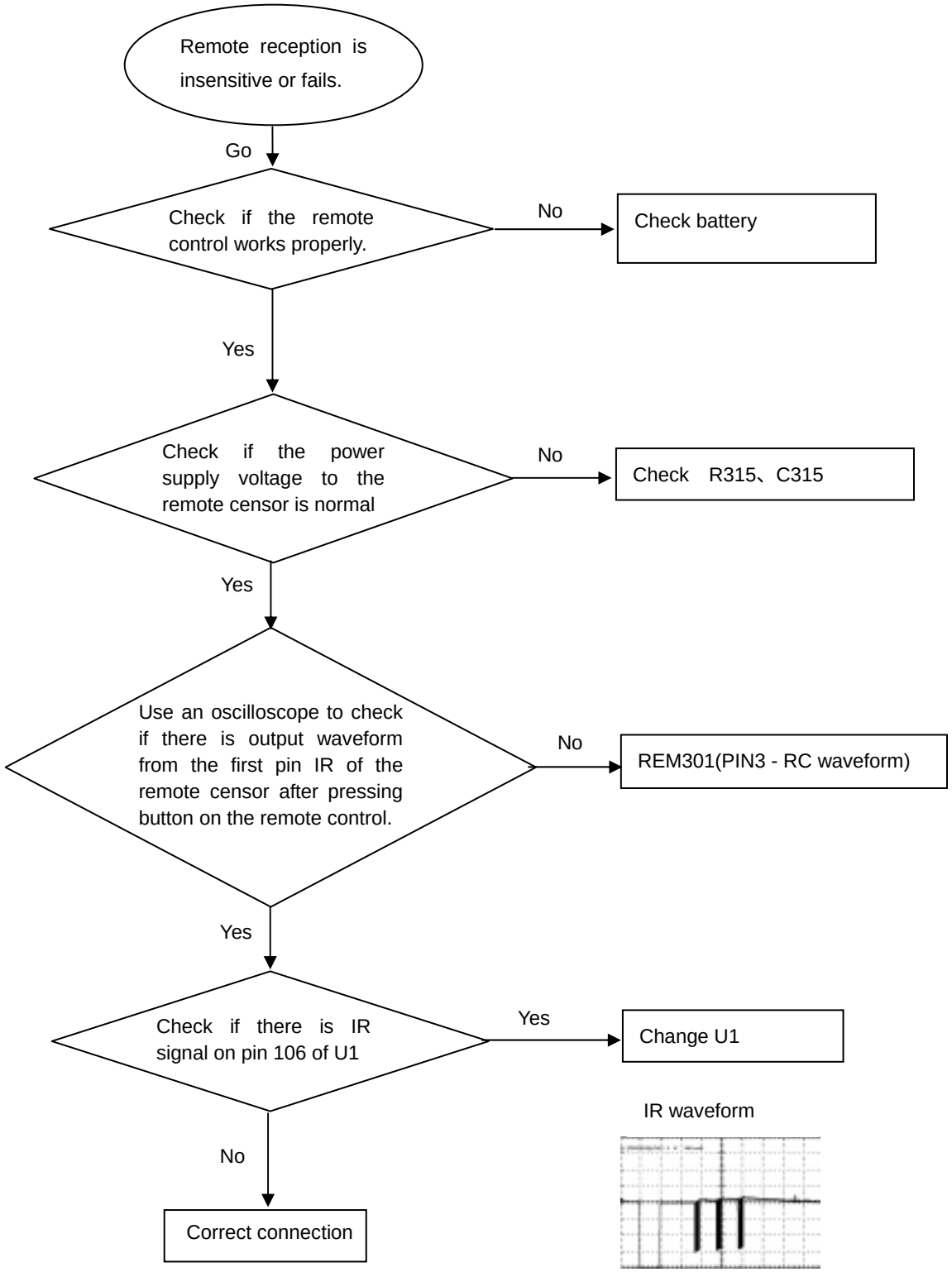
Abnormal color of video picture

Remark: Trouble shooting chart for DVP3120/05/12


Abnormal color of video picture
Yes
Check whether the 27MHz output signal is normal.
No
Check Y1, R17, C32 and C33
Yes
Check whether the 3.3V and 1.8V power supply voltages on the decoder board are normal.
No
Check other of power supply electric circuit
Yes
Check whether the video filter network circuit is normal.
No
Correct the connection
Yes
Check if the video signals on Pin 175,179,181,182 of U1 are normal
No
change U1

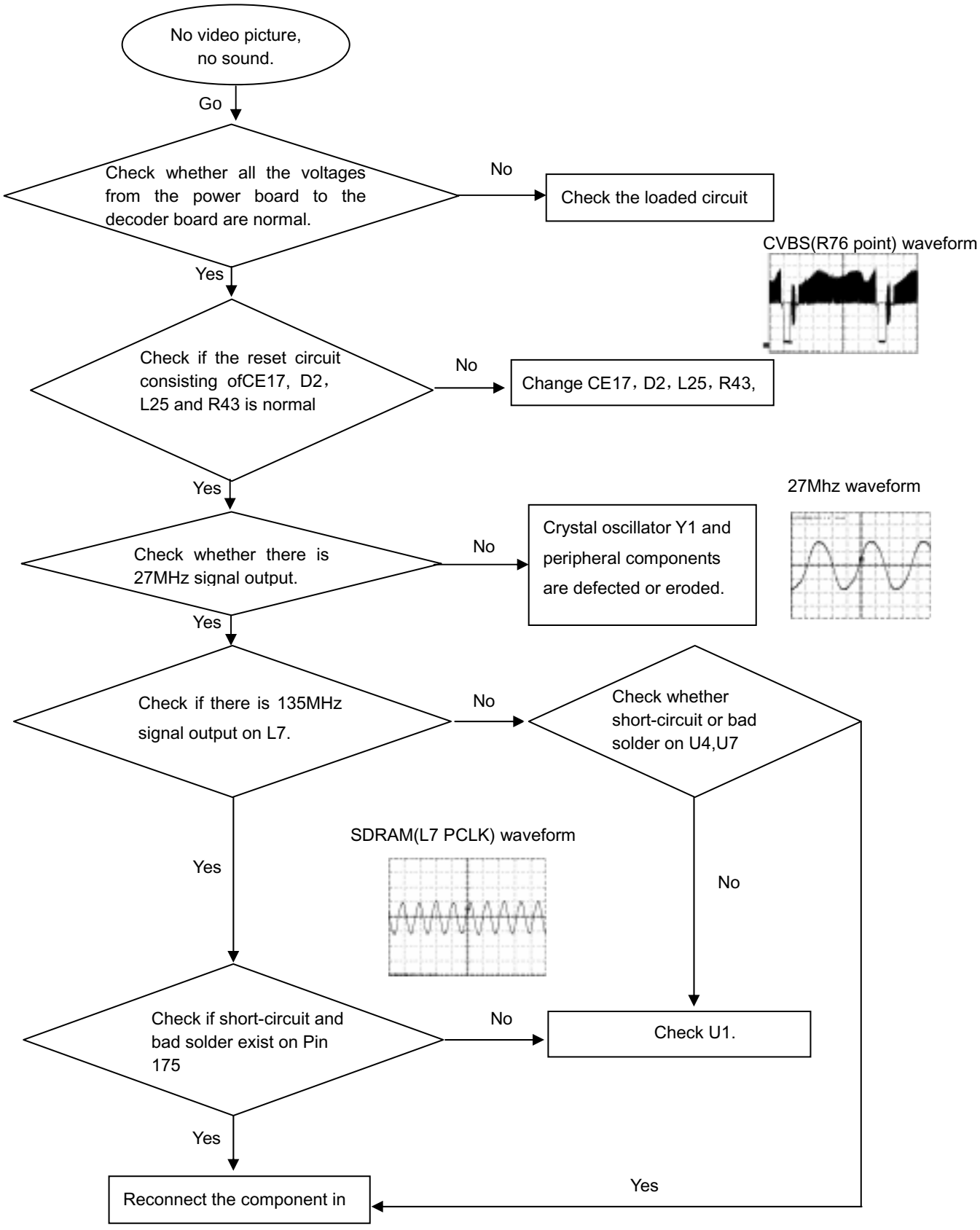
Remote reception is insensitive or fails.

Remark: Trouble shooting chart for DVP3120/05/12


Remote reception is insensitive or fails.
Go
Check if the remote control works properly.
No
Check battery
Yes
Check if the power supply voltage to the remote censor is normal
No
Check R315、C315
Yes
Use an oscilloscope to check if there is output waveform from the first pin IR of the remote censor after pressing button on the remote control.
No
REM301(PIN3 - RC waveform)
Yes
Check if there is IR signal on pin 106 of U1
Yes
Change U1
No
Correct connection
IR waveform

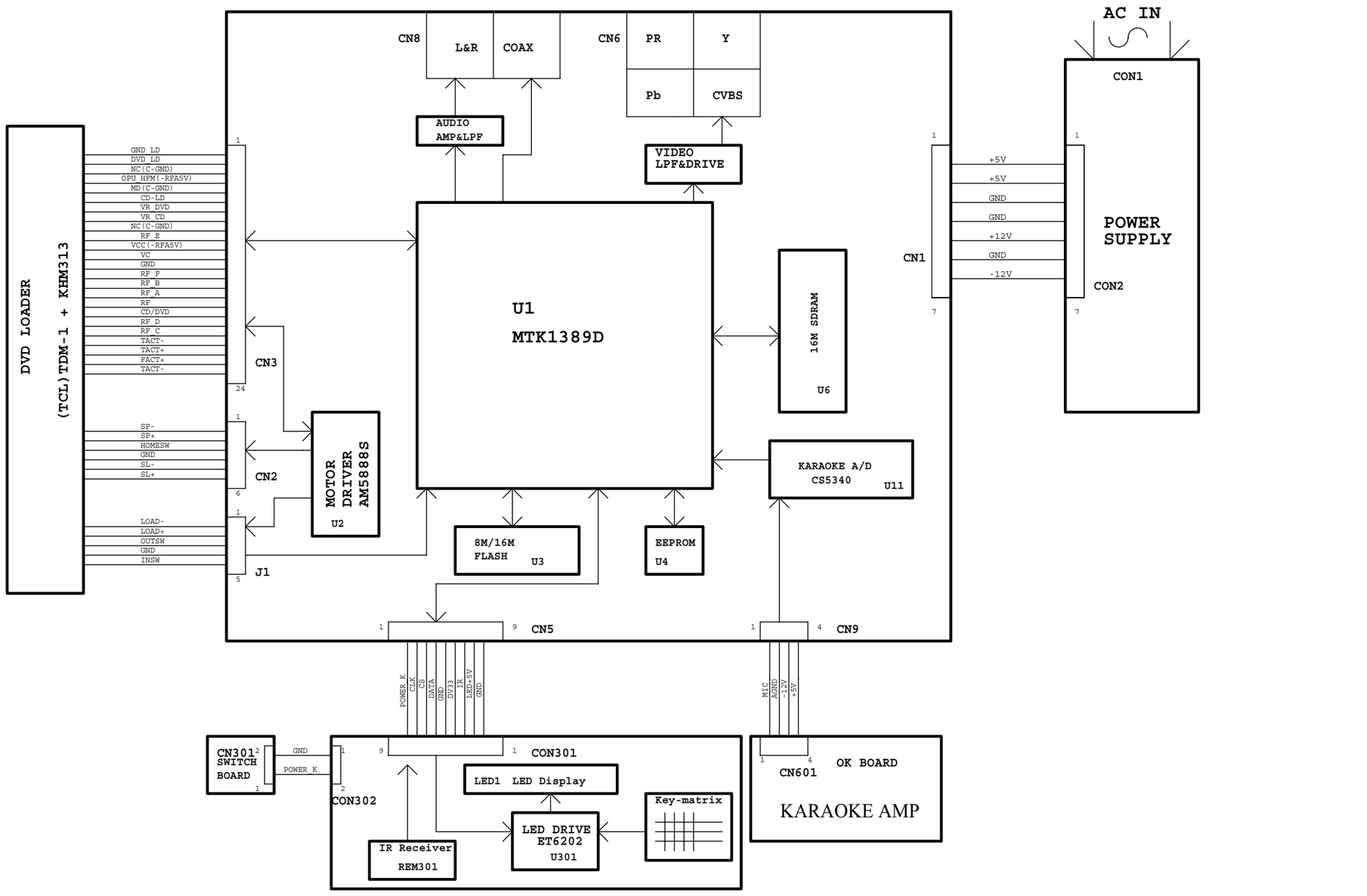
No video picture, no sound.

Remark: Trouble shooting chart for DVP3120/05/12



5-1

DVP3120(K)/XX WIRING DIAGRAM

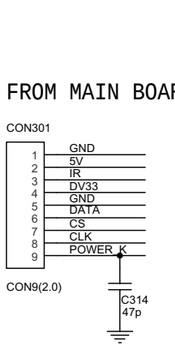


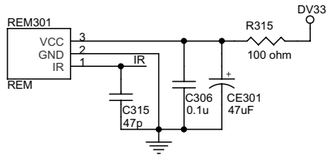
Remark:DVP3120 have no Karaoke.

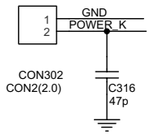
6-1

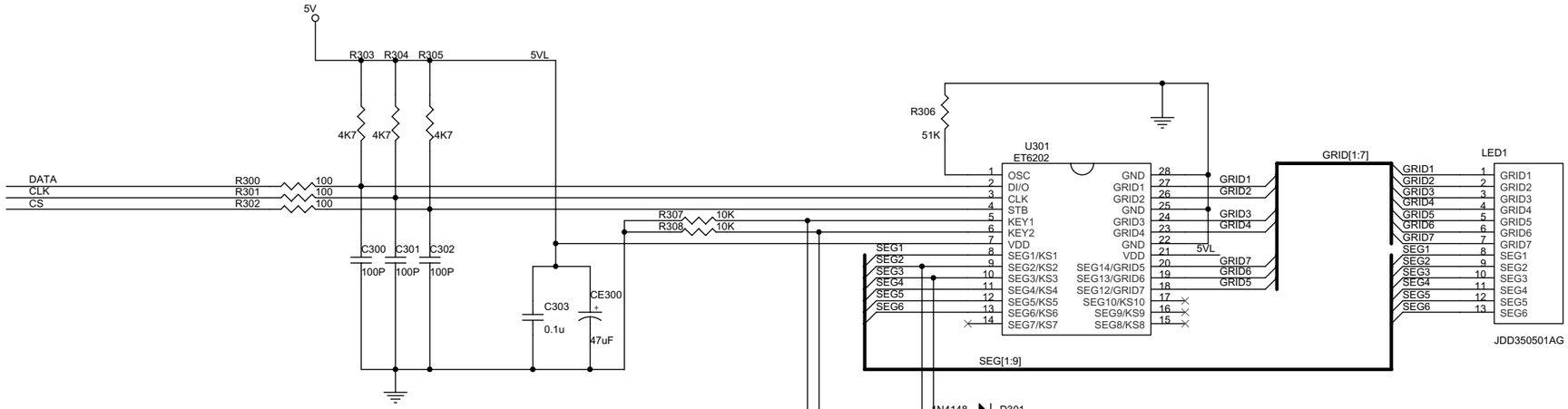
Front Board Electric Diagram for DVP3120(K)/XX

FROM MAIN BOARD





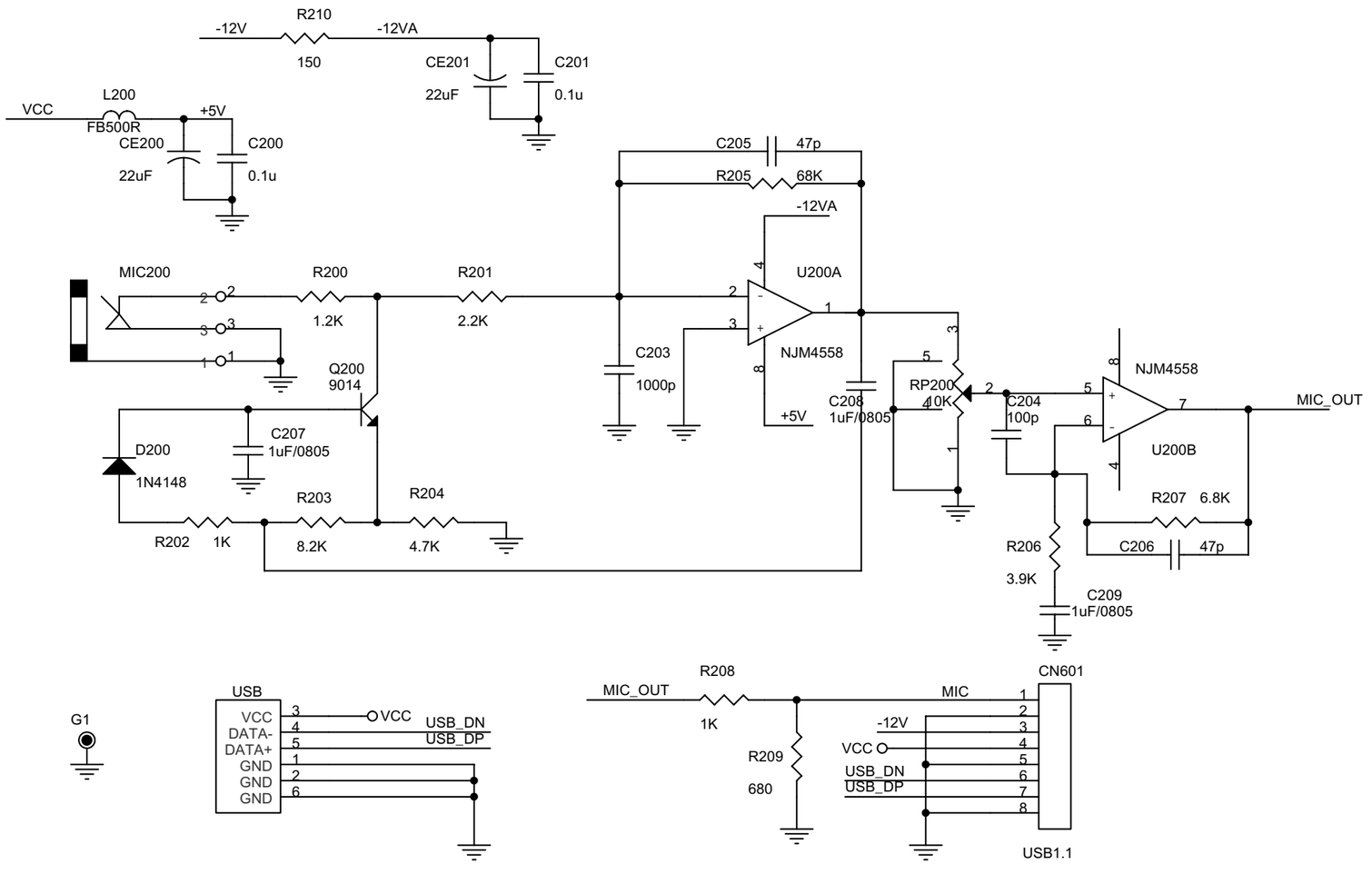




C300	B2
C301	B2
C302	B2
C303	B2
C306	B1
C314	A1
C315	B1
C316	C1
CE300	C2
CE301	B1
CON301	A1
CON302	C1
D301	D2
D302	D2
K302	E3
K303	E2
K304	D2
LED1	E2
R300	B2
R301	B2
R302	B2
R303	B2
R304	B2
R305	B2
R306	C1
R307	C2
R308	C2
R315	B1
REM301	B1
U301	D2

6-2

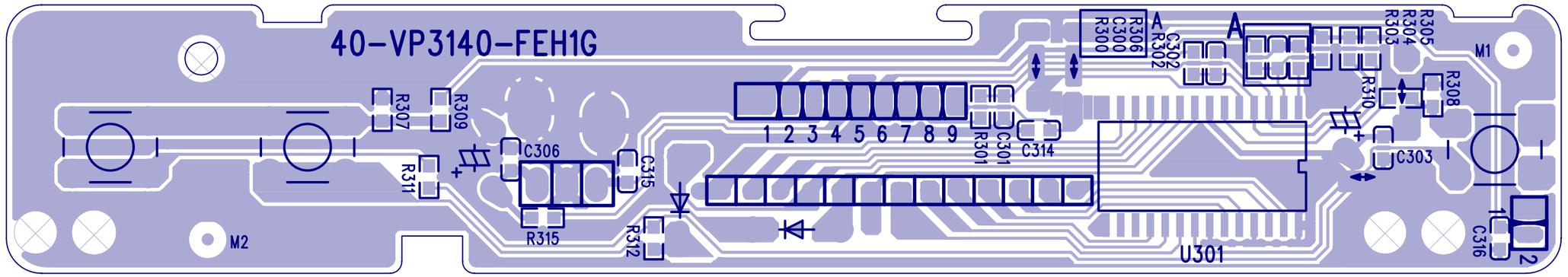
OK+USB Board Electric Diagram for DVP3120K/XX



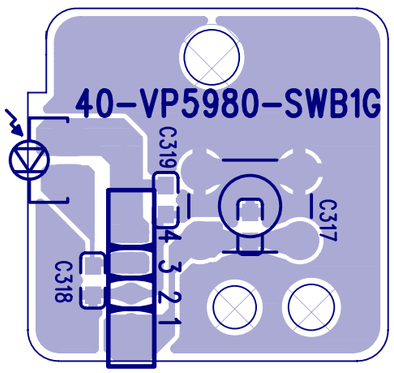
C200	A1
C201	B1
C203	B2
C204	C2
C205	C1
C206	D2
C207	A2
C208	C2
C209	D2
CE200	A1
CE201	B1
CN601	D3
D200	A2
G1	A3
L200	A1
MIC200	A1
Q200	B2
R200	B1
R201	B1
R202	A2
R203	B2
R204	B2
R205	C1
R206	D2
R207	D2
R208	C3
R209	C3
R210	B1
RP200	C2
U200A	C1
U200B	D2
USB	A3

6-3

Front Board Print-Layout (Bottom Side) for DVP3120(K)/XX

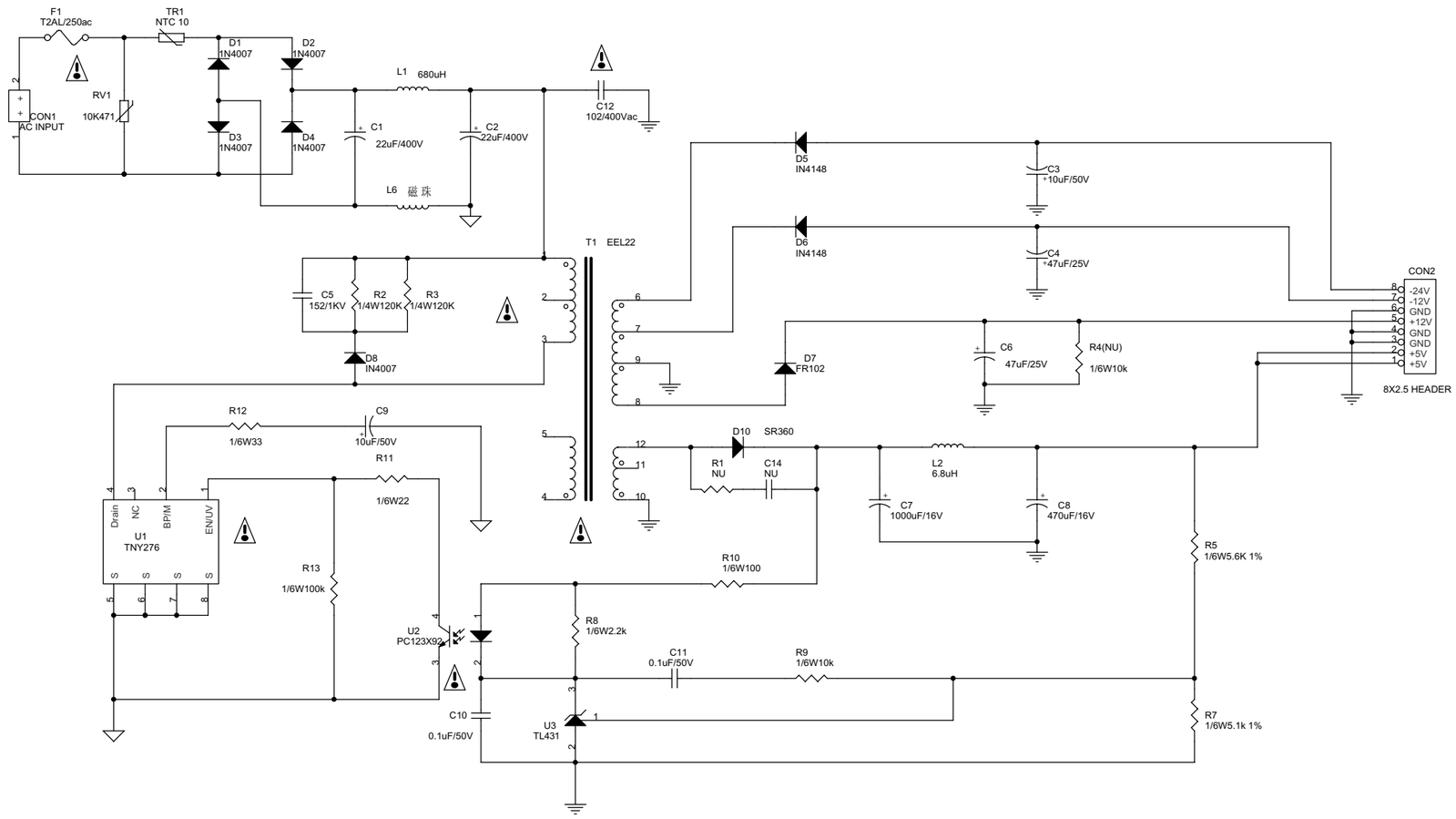


Switch Board Print-Layout (Bottom Side) for DVP3120(K)/XX



6-4

Power Board Electric Diagram for DVP3120/51/55/94/75



C1	B1
C10	B3
C11	B3
C12	B1
C14	C2
C2	B1
C3	C1
C4	C2
C5	B2
C6	C2
C7	C2
C8	C2
C9	B2
CON1	A1
CON2	D2
D1	A1
D10	C2
D2	B1
D3	A1
D4	B1
D5	C1
D6	C1
D7	C2
D8	B2
F1	A1
L1	B1
L2	C2
L6	B1
R1	C2
R10	C3
R11	B2
R12	A2
R13	B3
R2	B2
R3	B2
R4(NU)	C2
R5	D2
R7	D3
R8	B3
R9	C3
RV1	A1
T1	B2
TR1	A1
U1	A2
U2	B3
U3	B3

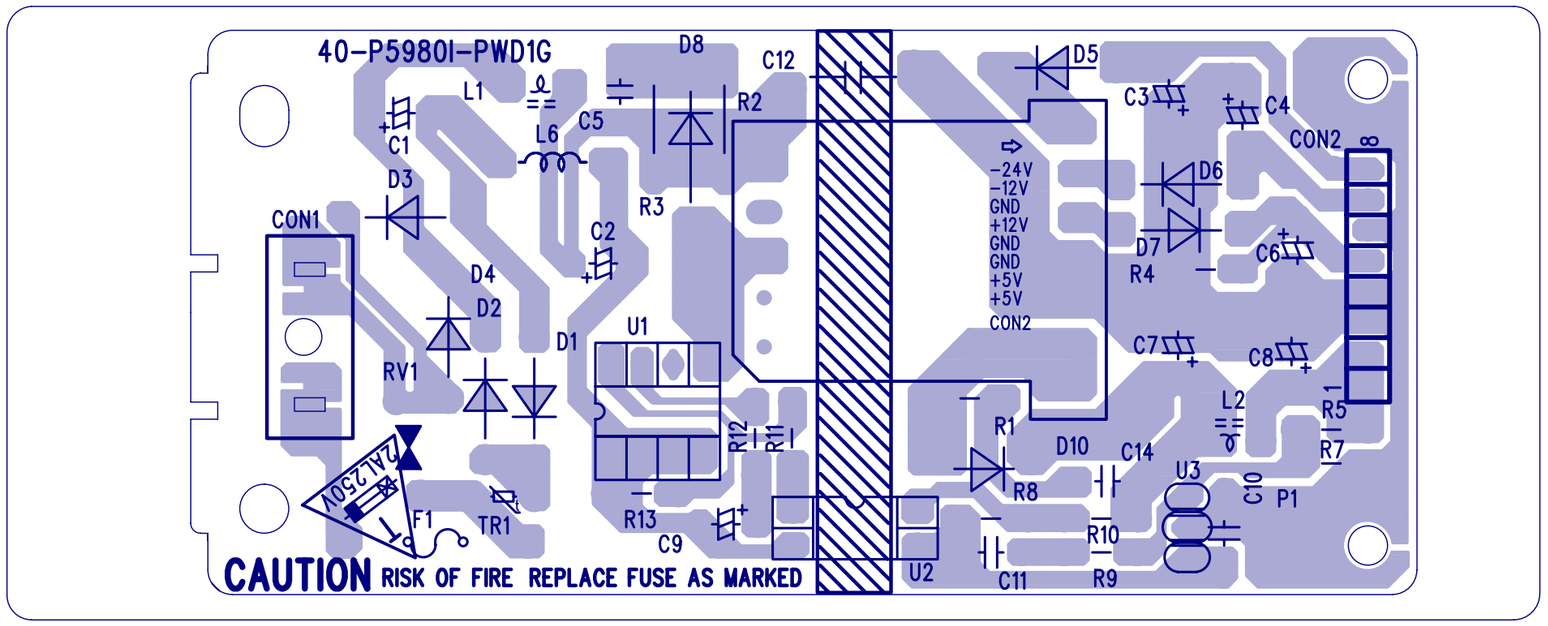
*** CAUTION :**

THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.

PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

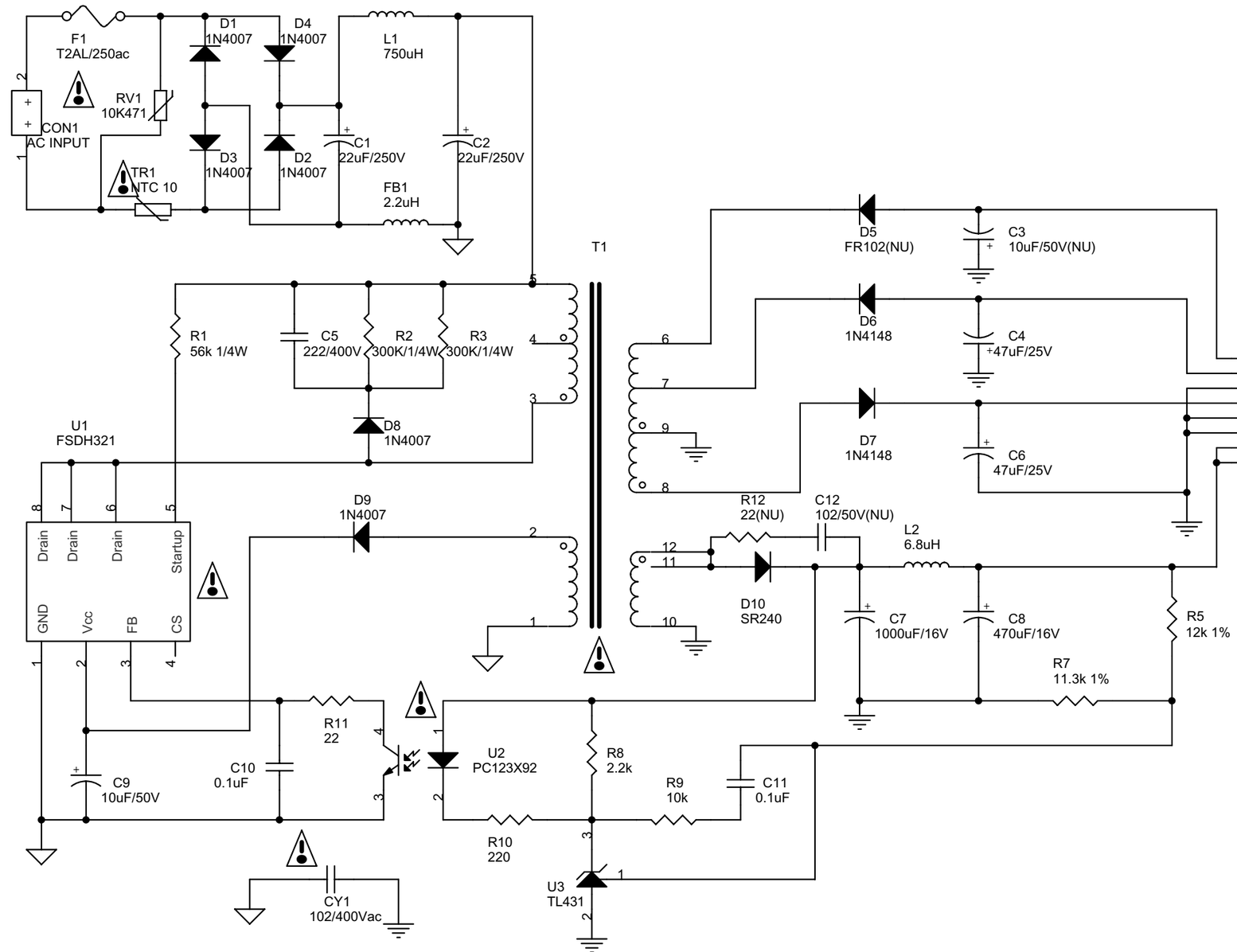
6-5

Power Board Print-Layout (Bottom Side) for DVP3120/51/55/94/75



6-6

Power Board Electric Diagram for DVP3120/05/12,DVP3120K/55

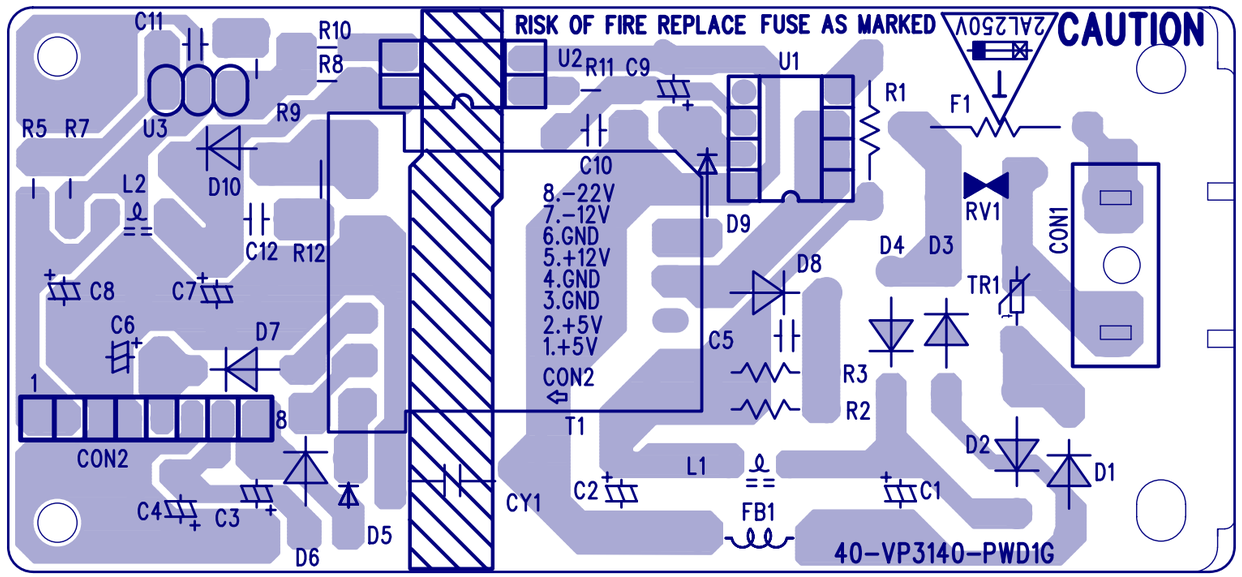


C1	B1
C10	A3
C11	C3
C12	C2
C2	B1
C3	C1
C4	C2
C5	A2
C6	C2
C7	C3
C8	C3
C9	A3
CON1	A1
CON2	D2
CY1	B4
D1	A1
D10	C3
D2	A1
D3	A1
D4	A1
D5	C1
D6	C2
D7	C2
D9	B2
F1	A1
FB1	B1
L1	B1
L2	C3
R1	A2
R10	B3
R11	A3
R12	C2
R2	B2
R3	B2
R5	D3
R7	D3
R8	B3
R9	B3
RV1	A1
T1	B2
TR1	A1
U1	A2
U2	B3
U3	B3

*** CAUTION :**
THE PARTS MARKED WITH ⚠ ARE IMPORTANT PARTS ON THE SAFETY.
PLEASE USE THE PARTS HAVING THE DESIGNATED PARTS NUMBER WITHOUT FAIL.

6-7

Power Board Print-Layout (Bottom Side) for DVP3120/05/12,DVP3120K/55

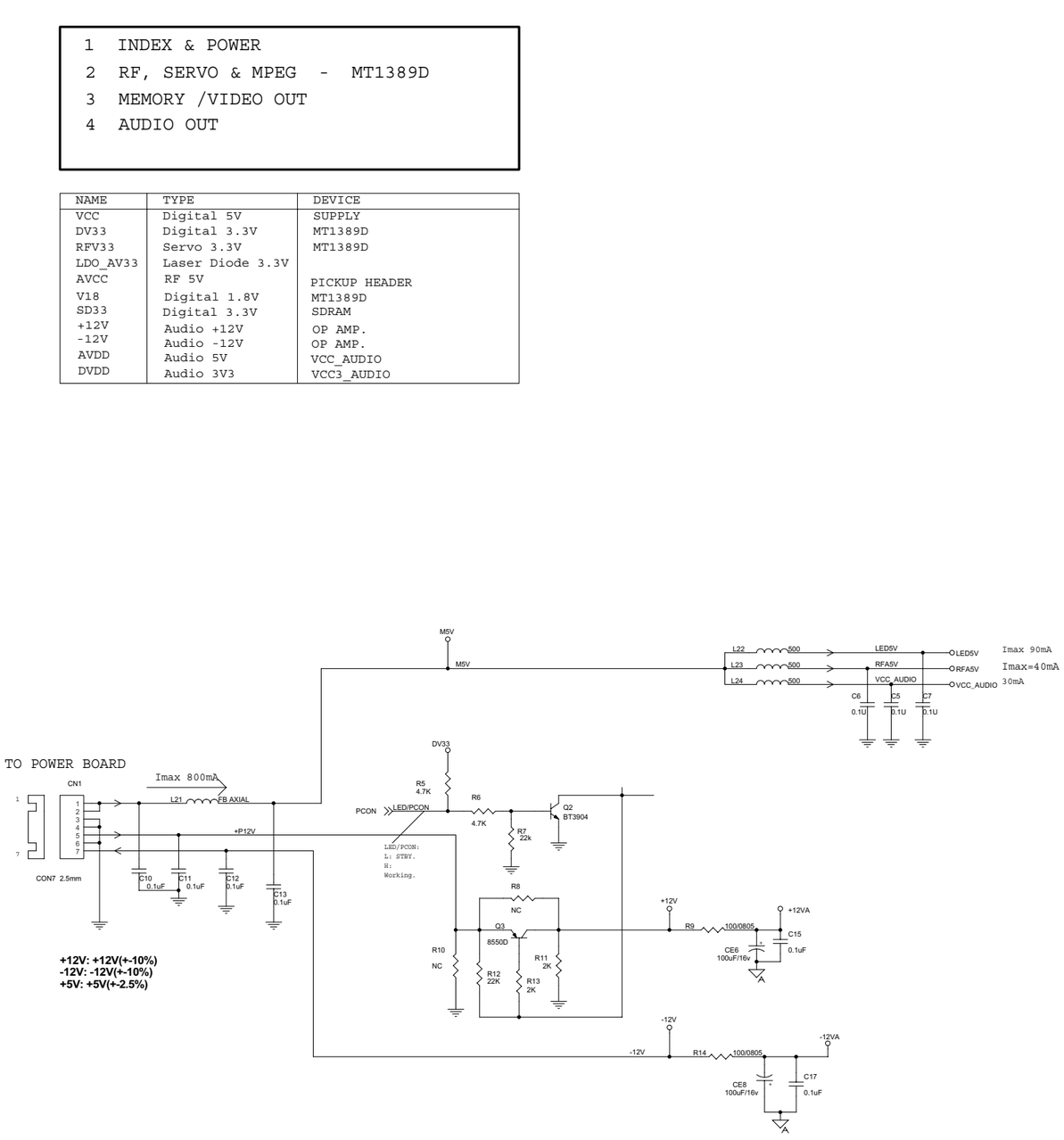


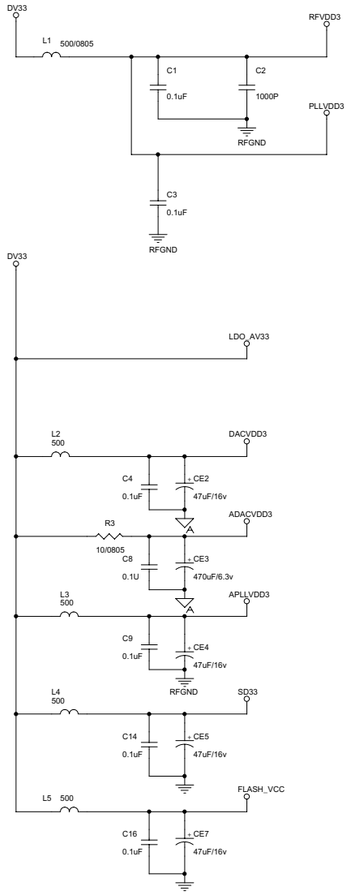
6-8

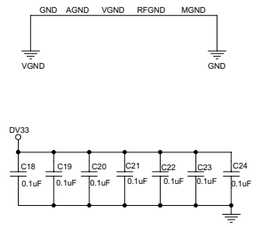
Main Board Electric Diagram for DVP3120/51/55/94/75, DVP3120K/55: INDEX

1 INDEX & POWER
2 RF, SERVO & MPEG - MT1389D
3 MEMORY /VIDEO OUT
4 AUDIO OUT

NAME	TYPE	DEVICE
VCC	Digital 5V	SUPPLY
DV33	Digital 3.3V	MT1389D
RFV33	Servo 3.3V	MT1389D
LDO_AV33	Laser Diode 3.3V	
AVCC	RF 5V	PICKUP HEADER
V18	Digital 1.8V	MT1389D
SD33	Digital 3.3V	SDRAM
+12V	Audio +12V	OP AMP.
-12V	Audio -12V	OP AMP.
AVDD	Audio 5V	VCC_AUDIO
DVDD	Audio 3V3	VCC3_AUDIO



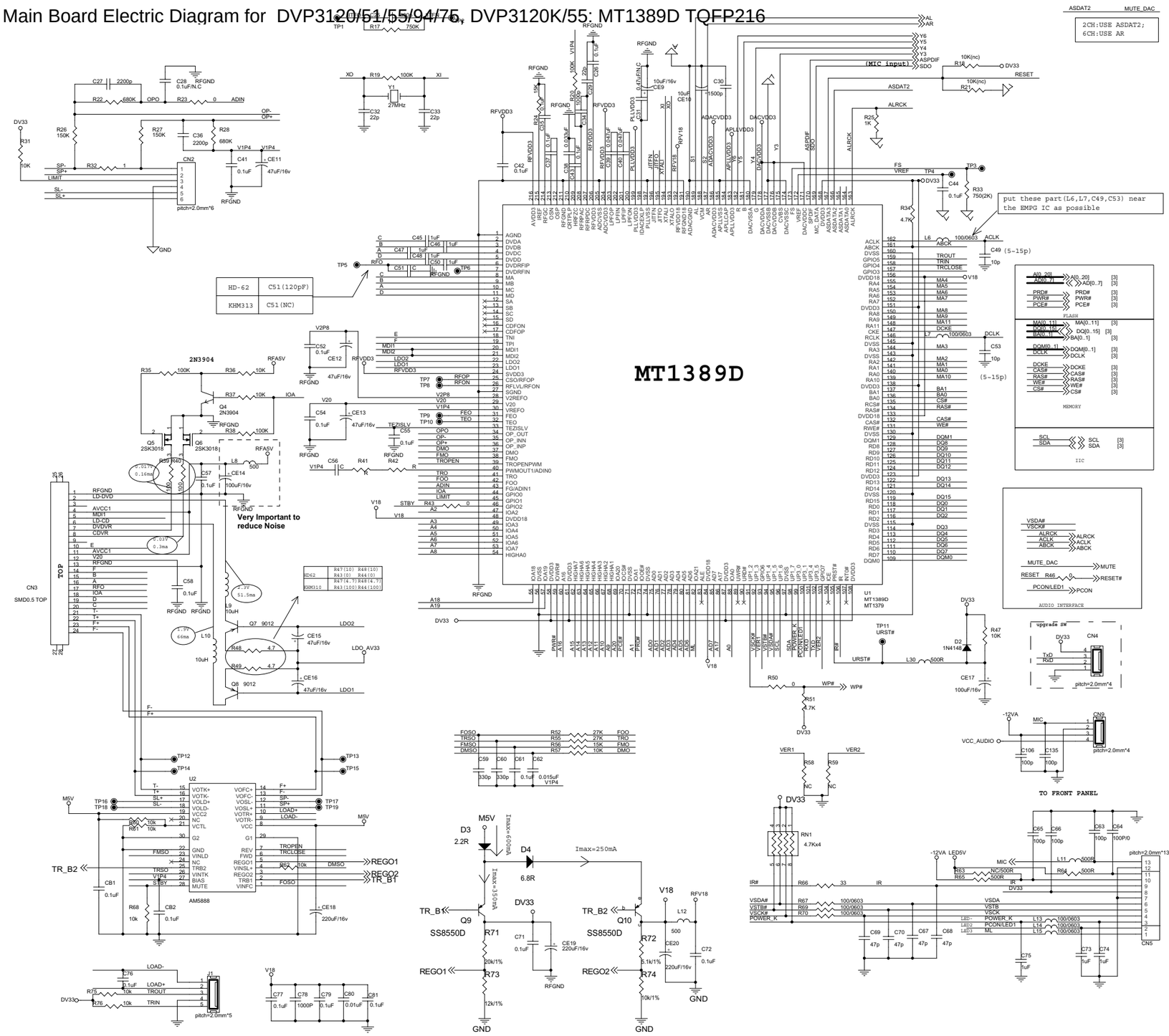




CE2	D 2
CE3	D 2
CE4	D 2
CE5	D 3
CE6	C 3
CE7	D 3
CE8	C 4
CN1	A 3
C1	D 1
C2	D 1
C3	D 1
C4	D 2
C5	C 3
C6	C 3
C7	C 3
C8	D 2
C9	D 2
C10	A 3
C11	A 3
C12	A 3
C13	A 3
C14	D 3
C15	C 3
C16	D 3
C17	C 4
C18	D 4
C19	D 4
C20	D 4
C21	D 4
C22	D 4
C23	D 4
C24	D 4
L1	D 1
L2	D 2
L3	D 2
L4	D 3
L5	D 3
L21	A 3
L22	C 3
L23	C 3
L24	C 3
Q2	B 3
Q3	B 3
R3	D 2
R5	B 3
R6	B 3
R7	B 3
R8	B 3
R9	B 3
R10	B 4
R11	B 4
R12	B 4
R13	B 4
R14	B 4

6-9

Main Board Electric Diagram for DVP3120/51/55/94/75, DVP3120K/55: MT1389D TQFP216

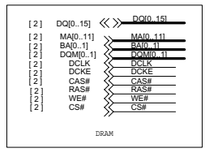


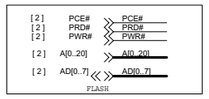
CB1	A4	C66	D4	R38	A2
CB2	A4	C67	C4	R39	A2
CE9	C1	C68	D4	R40	A2
CE10	C1	C69	C4	R41	B2
CE11	A1	C70	C4	R42	B2
CE12	B2	C71	B4	R43	B2
CE13	B2	C72	C4	R46	D3
CE14	A2	C73	D4	R47	D3
CE15	A3	C74	D4	R48	A3
CE16	A3	C75	D4	R49	A3
CE17	D3	C76	A4	R50	C3
CE18	B4	C77	A4	R51	C3
CE19	B4	C78	A4	R52	B3
CE20	C4	C79	B4	R55	B3
CN2	A1	C80	B4	R56	B3
CN3	A2	C81	B4	R57	B3
CN4	D3	C106	D3	R58	C3
CN5	D4	C135	D3	R59	C3
CN9	D3	D2	D3	R60	A4
C25	B1	D3	B4	R61	A4
C26	B1	D4	B4	R62	A4
C27	A1	J1	A4	R63	D4
C28	A1	L6	D1	R64	D4
C29	B1	L7	D2	R65	D4
C30	C1	L8	A2	R66	C4
C31	C1	L9	A3	R67	C4
C32	B1	L10	A3	R68	A4
C33	B1	L11	D4	R69	C4
C34	B1	L12	C4	R70	C4
C35	B1	L13	D4	R71	B4
C36	A1	L14	D4	R72	C4
C37	B1	L15	D4	R73	B4
C38	B1	L30	C3	R74	C4
C39	B1	Q4	A2	R75	A4
C40	C1	Q5	A2	R76	A4
C41	A1	Q6	A2	TP1	B1
C42	B1	Q7	A3	TP2	B1
C43	B1	Q8	A3	TP3	D1
C44	D1	Q9	B4	TP4	D1
C45	B1	Q10	C4	TP5	B1
C46	B1	RN1	C4	TP6	B2
C47	B1	R17	B1	TP7	B2
C48	B1	R18	D1	TP8	B2
C49	D1	R19	B1	TP9	B2
C50	B1	R20	B1	TP10	B2
C51	B2	R21	D1	TP11	C3
C52	B2	R22	A1	TP12	A3
C53	D2	R23	A1	TP13	B3
C54	B2	R24	B1	TP14	A3
C55	B2	R25	C1	TP15	B3
C56	B2	R26	A1	TP16	A3
C57	A2	R27	A1	TP17	B3
C58	A3	R28	A1	TP18	A3
C59	B3	R31	A1	TP19	B3
C60	B3	R32	A1	U1	B1
C61	B3	R33	D1	U2	A3
C62	B3	R34	C1	Y1	B1
C63	D4	R35	A2		
C64	D4	R36	A2		
C65	D4	R37	A2		

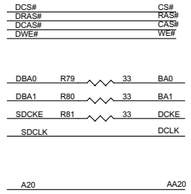
model	R63	R64,R65	C64	CN5	L14,L15
DVP3110	NC	500FB	100P	1--13pin	100R
DVP3120	500FB	NC	0R RES	3--11pin	NC

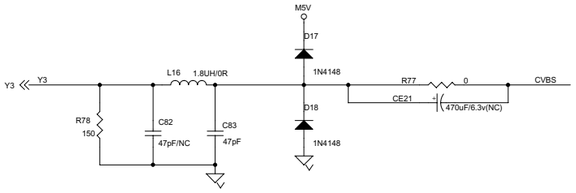
6-10

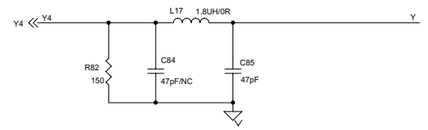
Main Board Electric Diagram for DVP3120/51/55/94/75, DVP3120K/55: SDRAM & FLASH&VIDEO OUT

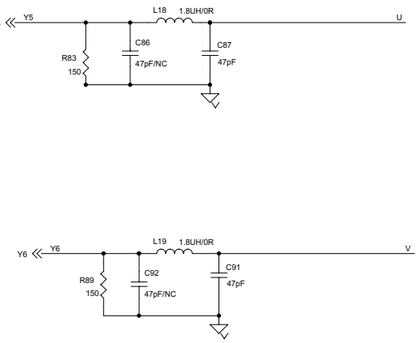


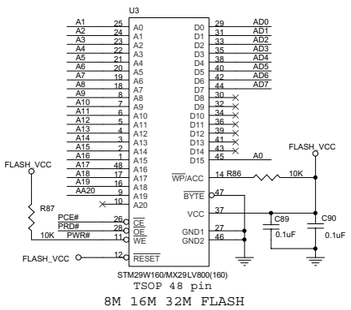


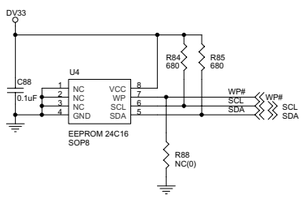


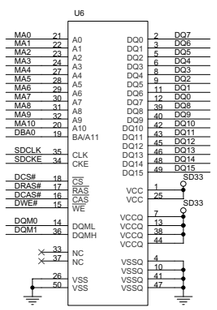


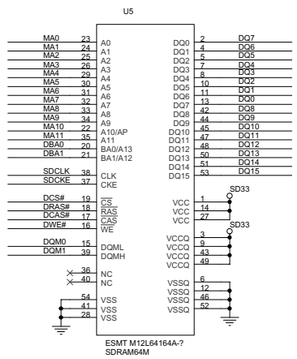


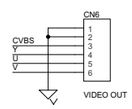


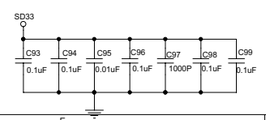








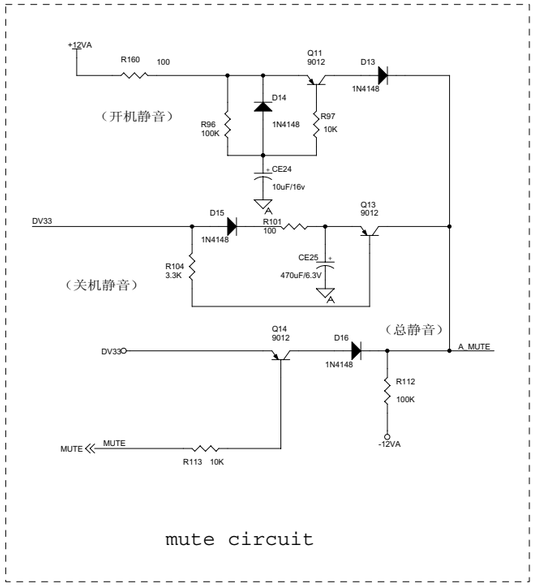




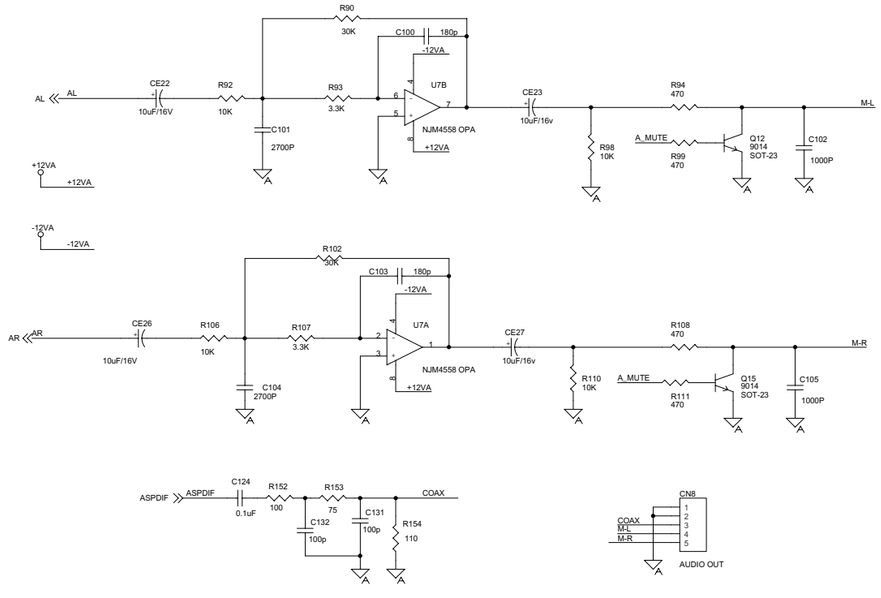
CE21	D1
CN6	D3
C82	D1
C83	D1
C84	D2
C85	D2
C86	D2
C87	D2
C88	B2
C89	A2
C90	A2
C91	D3
C92	D3
C93	A4
C94	A4
C95	A4
C96	A4
C97	A4
C98	A4
C99	A4
D17	D1
D18	D1
L16	D1
L17	D1
L18	D2
L19	D3
R77	D1
R78	D1
R79	B1
R80	B1
R81	B1
R82	D2
R83	D2
R84	C2
R85	C2
R86	A2
R87	A2
R88	C2
R89	D3
U3	A2
U4	B2
U5	B3
U6	A3

6-11

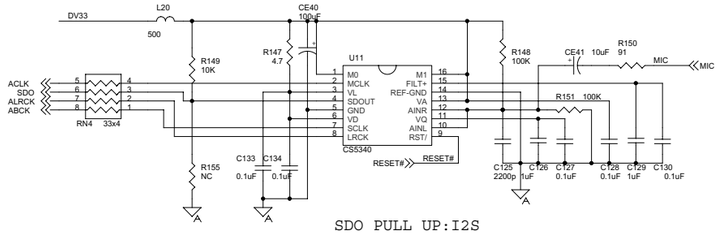
Main Board Electric Diagram for DVP3120/51/55/94/75, DVP3120K/55: Audio out



mute circuit



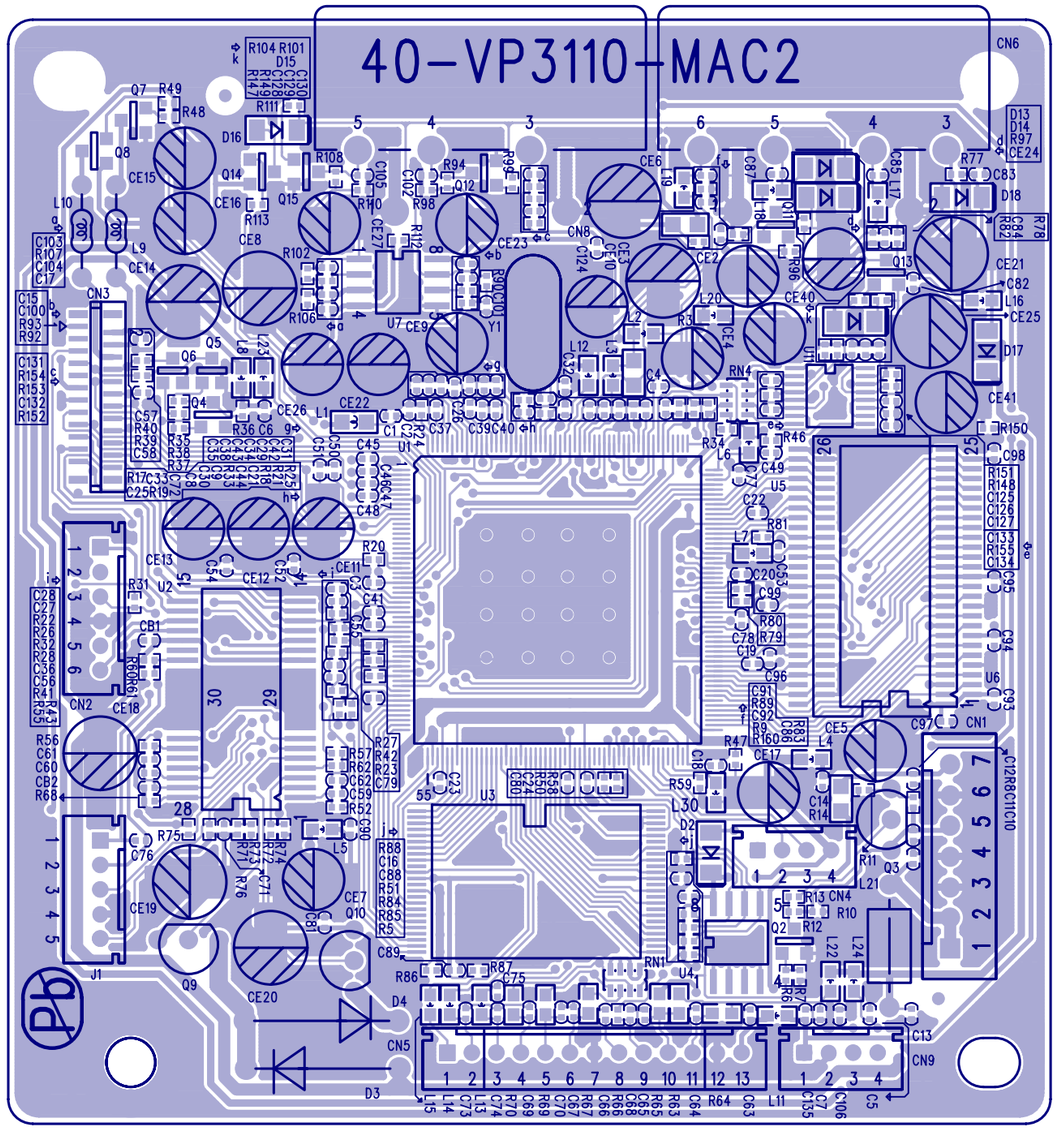
CE22	C1
CE23	D1
CE24	A1
CE25	A1
CE26	C1
CE27	D1
CE40	A3
CE41	B3
CN8	D2
C100	C1
C101	C1
C102	D1
C103	C1
C104	C2
C105	D2
C124	C2
C125	B3
C126	B3
C127	B3
C128	B3
C129	B3
C130	B3
C131	C2
C132	C2
C133	A3
C134	A3
D13	B1
D14	A1
D15	A1
D16	B2
L20	A3
Q11	A1
Q12	D1
Q13	B1
Q14	A2
Q15	D2
RN4	A3
R90	C1
R92	C1
R93	C1
R94	D1
R96	A1
R97	A1
R98	D1
R99	D1
R101	A1
R102	C1
R104	A1
R106	C1
R107	C1
R108	D1
R110	D2
R111	D2
R112	B2
R113	A2
R147	A3
R148	B3
R149	A3
R150	B3
R151	B3
R152	C2
R153	C2
R154	C2
R155	A3
R160	A1
U7A	C1
U7B	C1
U11	B3



SDO PULL UP:I2S
M0,M1 PULL UP:CLOCK SLAVE,ALL SPEED MODES

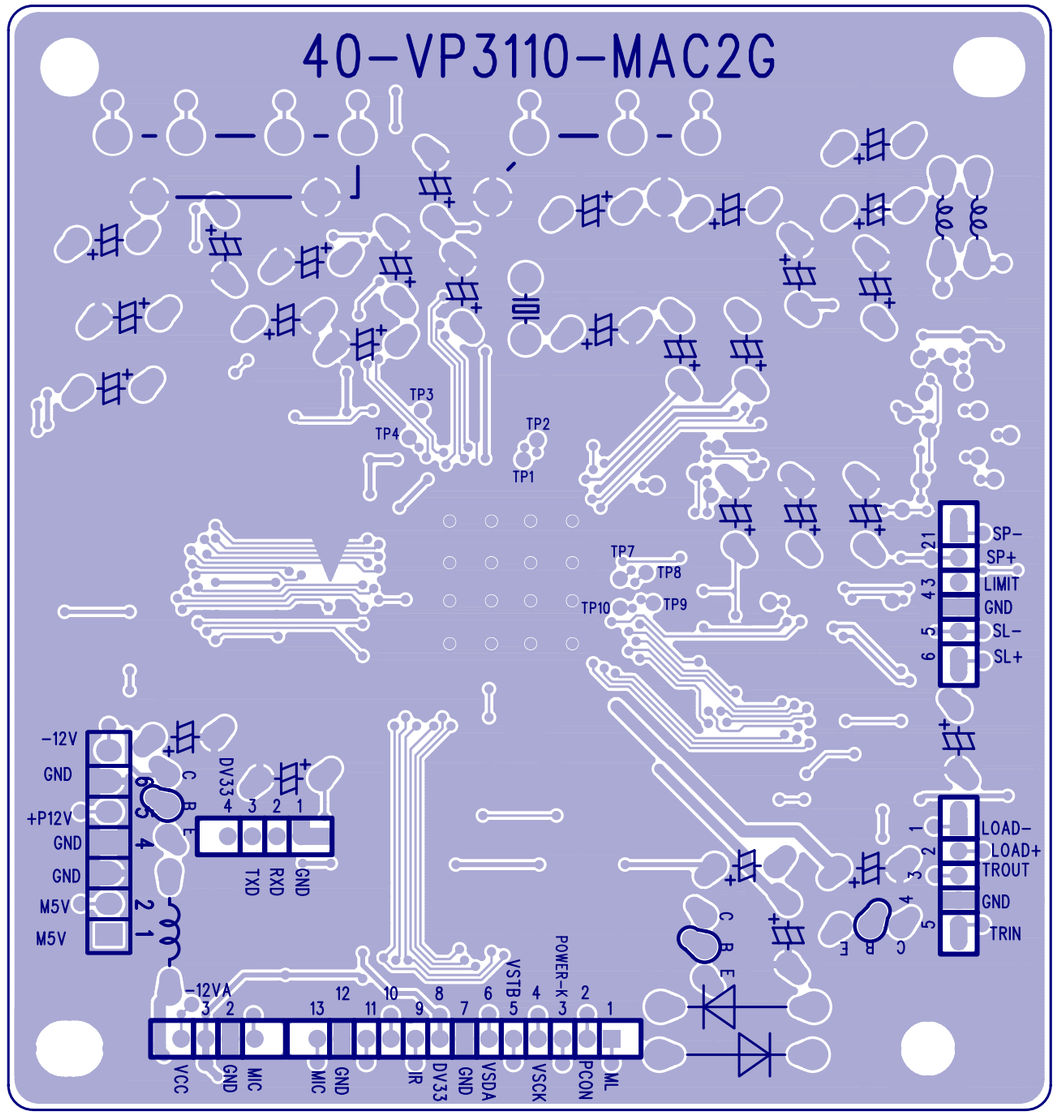
6-12

Main Board Print-Layout (Top Side) for DVP3120/51/55/94/75, DVP3120K/55



6-13

Main Board Print-Layout (Bottom Side) for DVP3120/51/55/94/75, DVP3120K/55

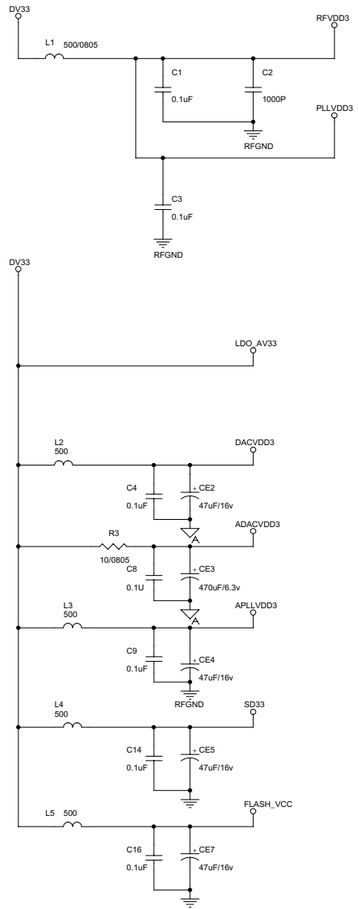


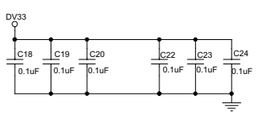
6-14

Main Board Electric Diagram for DVP3120/05/12, DVP3120K/55: INDEX

1 INDEX & POWER
2 RF, SERVO & MPEG - MT1389D
3 MEMORY /VIDEO OUT
4 AUDIO OUT

NAME	TYPE	DEVICE
VCC	Digital 5V	SUPPLY
DV33	Digital 3.3V	MT1389D
RFV33	Servo 3.3V	MT1389D
LDO_AV33	Laser Diode 3.3V	
AVCC	RF 5V	PICKUP HEADER
V18	Digital 1.8V	MT1389D
SD33	Digital 3.3V	SDRAM
+12V	Audio +12V	OP AMP.
-12V	Audio -12V	OP AMP.
AVDD	Audio 5V	VCC_AUDIO
DVDD	Audio 3V3	VCC3_AUDIO

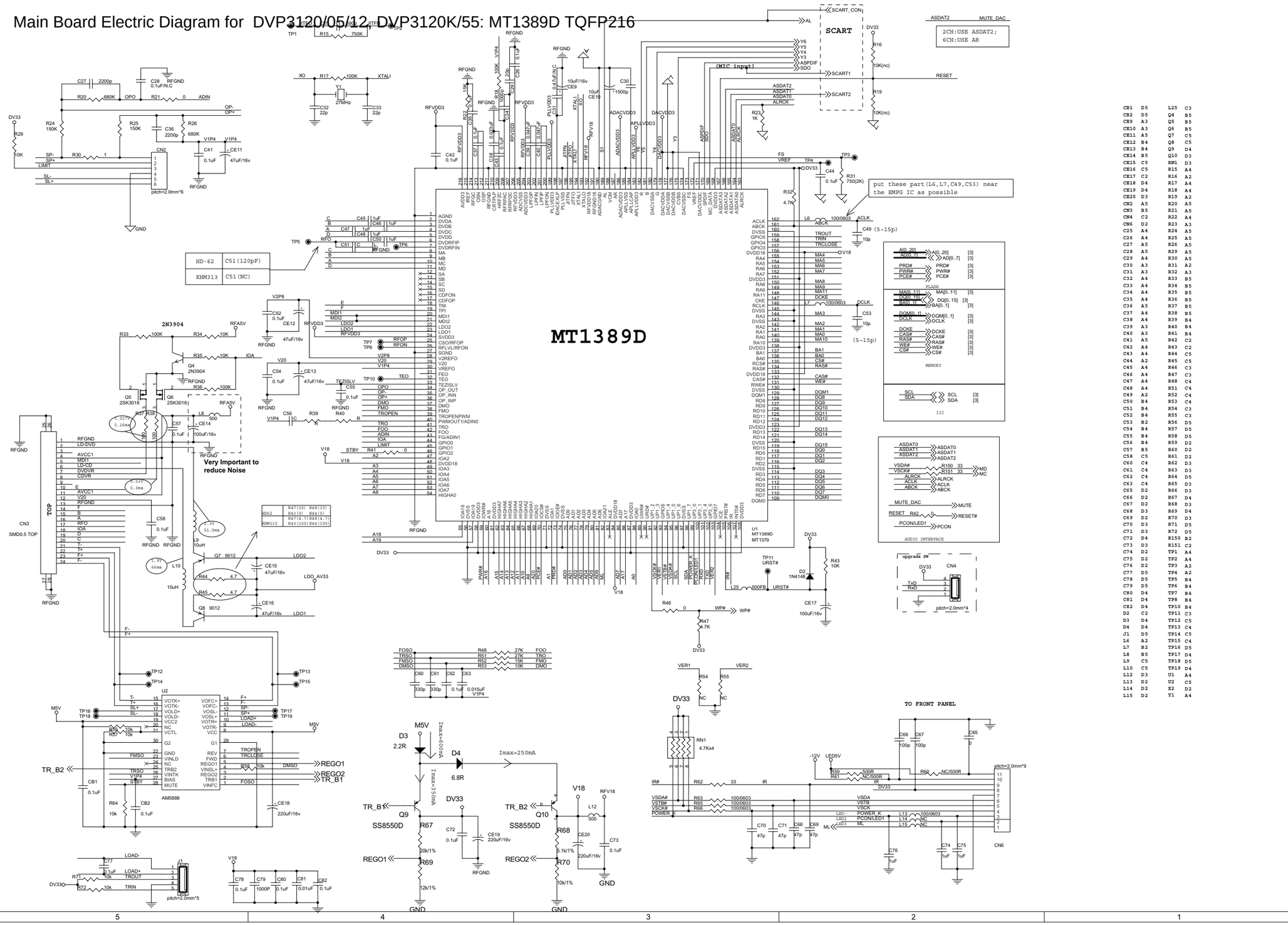




CE2	B2
CE3	B2
CE4	B2
CE5	C2
CE6	C3
CE7	C2
CE8	D3
CN1	C5
C1	A2
C2	A2
C3	A2
C4	B2
C5	C3
C6	C3
C7	C3
C8	B2
C9	B2
C10	C5
C11	C5
C12	C5
C13	C5
C14	C2
C15	C3
C16	C2
C17	D3
C18	D2
C19	D2
C20	D2
C22	D2
C23	D2
C24	D2
D1	C4
JP1	C4
L1	A2
L2	B2
L3	B2
L4	C2
L5	C2
L21	C5
L22	C3
L23	C3
L24	C3
Q1	C4
Q2	C4
Q3	C4
R1	C4
R2	C4
R3	B2
R4	C4
R5	C4
R6	C4
R7	C4
R8	C4
R9	C4
R10	D4
R11	D4
R12	D4
R13	D4
R14	D4
X1	D2

6-15

Main Board Electric Diagram for DVP3120/05/12, DVP3120K/55: MT1389D TQFP216



CB1	D5	L25	C3
CB2	D5	Q4	B5
CE9	A3	Q5	B5
CE10	A3	Q6	B5
CE11	A5	Q7	C5
CE12	B4	Q8	C5
CE13	B4	Q9	D4
CE14	B5	Q10	D3
CE15	C5	RH1	D3
CE16	C5	R15	A4
CE17	C2	R16	A2
CE18	D4	R17	A4
CE19	D4	R18	A4
CE20	D3	R19	A2
CN2	A5	R20	A5
CN3	B5	R21	A5
CN4	C2	R22	A4
CN6	D2	R23	A3
C25	A4	R24	A5
C26	A4	R25	A5
C27	A5	R26	A5
C28	A5	R29	A5
C29	A4	R30	A5
C30	A3	R31	A2
C31	A3	R32	A3
C32	A4	R33	B5
C33	A4	R34	B5
C34	A4	R35	B5
C35	A4	R36	B5
C36	A5	R37	B5
C37	A4	R38	B5
C38	A4	R39	B4
C39	A3	R40	B4
C40	A3	R41	B4
C41	A5	R42	C2
C42	A4	R43	C2
C43	A4	R44	C5
C44	A2	R45	C5
C45	A4	R46	C3
C46	A4	R47	C3
C47	A4	R48	C4
C48	A4	R51	C4
C49	A2	R52	C4
C50	B4	R53	C4
C51	B4	R54	C3
C52	B4	R55	C3
C53	B2	R56	D5
C54	B4	R57	D5
C55	B4	R58	D5
C56	B4	R59	D5
C57	B5	R60	D2
C58	C5	R61	D2
C60	C4	R62	D3
C61	C4	R63	D3
C62	C4	R64	D5
C63	C4	R65	D3
C65	D2	R66	D3
C66	D2	R67	D4
C67	D2	R68	D3
C68	D3	R69	D4
C69	D2	R70	D3
C70	D3	R71	D5
C71	D3	R72	D5
C72	D4	R150	B2
C73	D3	R151	C2
C74	D2	TP1	A4
C75	D2	TP2	A4
C76	D2	TP3	A2
C77	D5	TP4	A2
C78	D5	TP5	B4
C79	D5	TP6	B4
C80	D4	TP7	B4
C81	D4	TP8	B4
C82	D4	TP10	B4
D2	C2	TP11	C3
D3	D4	TP12	C5
D4	D4	TP13	C4
J1	D5	TP14	C5
L6	A2	TP15	C4
L7	B2	TP16	D5
L8	B5	TP17	D4
L9	C5	TP18	D5
L10	C5	TP19	D4
L12	D3	U1	A4
L13	D2	U2	C5
L14	D2	X2	D2
L15	D2	Y1	A4

6-16

Main Board Electric Diagram for DVP3120/05/12, DVP3120K/55: SDRAM&FLASH&VIDEO OUT

DRAM

FLASH

8M 16M 32M FLASH

SCART_CON	SCART
1	ON
0	OFF

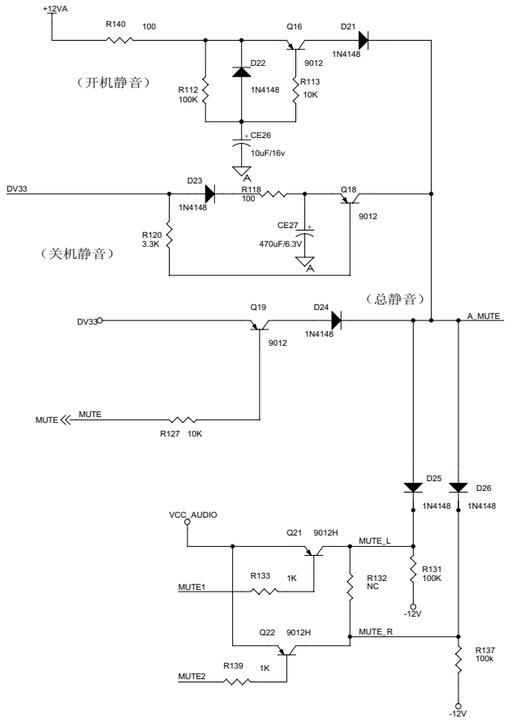
SCART_CON	SCART1	SCART2	SCART8	SCART16
1	0	0	12V (9.5V - 12V 4:3)	3V (RGB)
1	0	1	6V (5V - 8V 16:9)	3V (RGB)
0	1	X(0/1)	0V TV MODE	0V
0	0	0	12V (9.5V - 12V 4:3)	0V (CVBS)
0	0	1	6V (5V - 8V 16:9)	0V (CVBS)

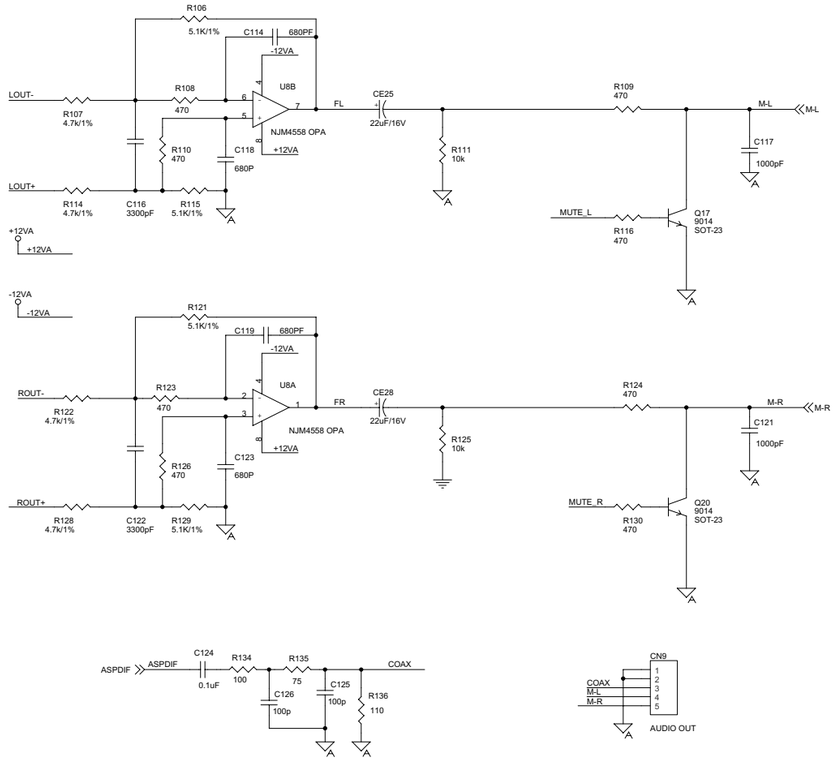
SCART与非SCART输出,控制信号
SCART1和SCART2时序相同,
SCART1只有在SDTANDBY才为1

CE21	A2
CE22	A2
CE23	B2
CE24	B1
CN7	C3
CN8	D4
C83	A2
C84	A3
C85	C3
C86	A2
C87	B3
C88	C3
C89	B1
C90	B2
C91	B3
C92	C3
C93	B1
C94	B4
C95	B5
C96	B5
C97	B2
C98	C3
C99	C3
C100	D2
C101	D3
C102	D3
C103	D3
C104	D3
C105	D5
C106	D5
C107	D5
C108	D5
C109	D5
C110	D5
C111	D5
C112	D3
C113	D3
D13	D3
D14	D3
D15	D3
D18	D3
D19	D3
D20	D3
L16	A3
L17	A3
L18	A3
L19	B3
L20	C3
Q11	A2
Q12	B2
Q13	B2
Q14	C2
Q15	C2
R73	A2
R74	A2
R75	A3
R76	A2
R77	A2
R78	A2
R79	A4
R80	A4
R81	A4
R82	B3
R83	B2
R84	B2
R85	B2
R86	B2
R87	B2
R88	B3
R89	B2
R90	B4
R91	B4
R92	B5
R93	B2
R94	B2
R95	B2
R96	B5
R97	B2
R98	B2
R99	B2
R100	B4
R101	C2
R102	C2
R103	C3
R104	C2
R105	C2
U3	A2
U4	B5
U5	B4
U6	C4
U7	C5
X3	D2

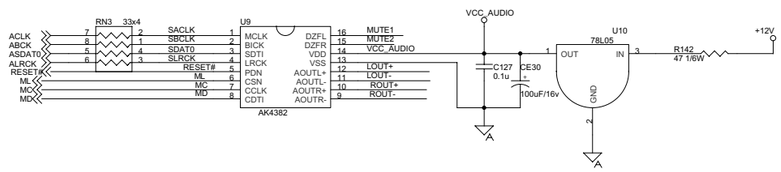
6-17

Main Board Electric Diagram for DVP3120/05/12, DVP3120K/55: AUDIO OUT





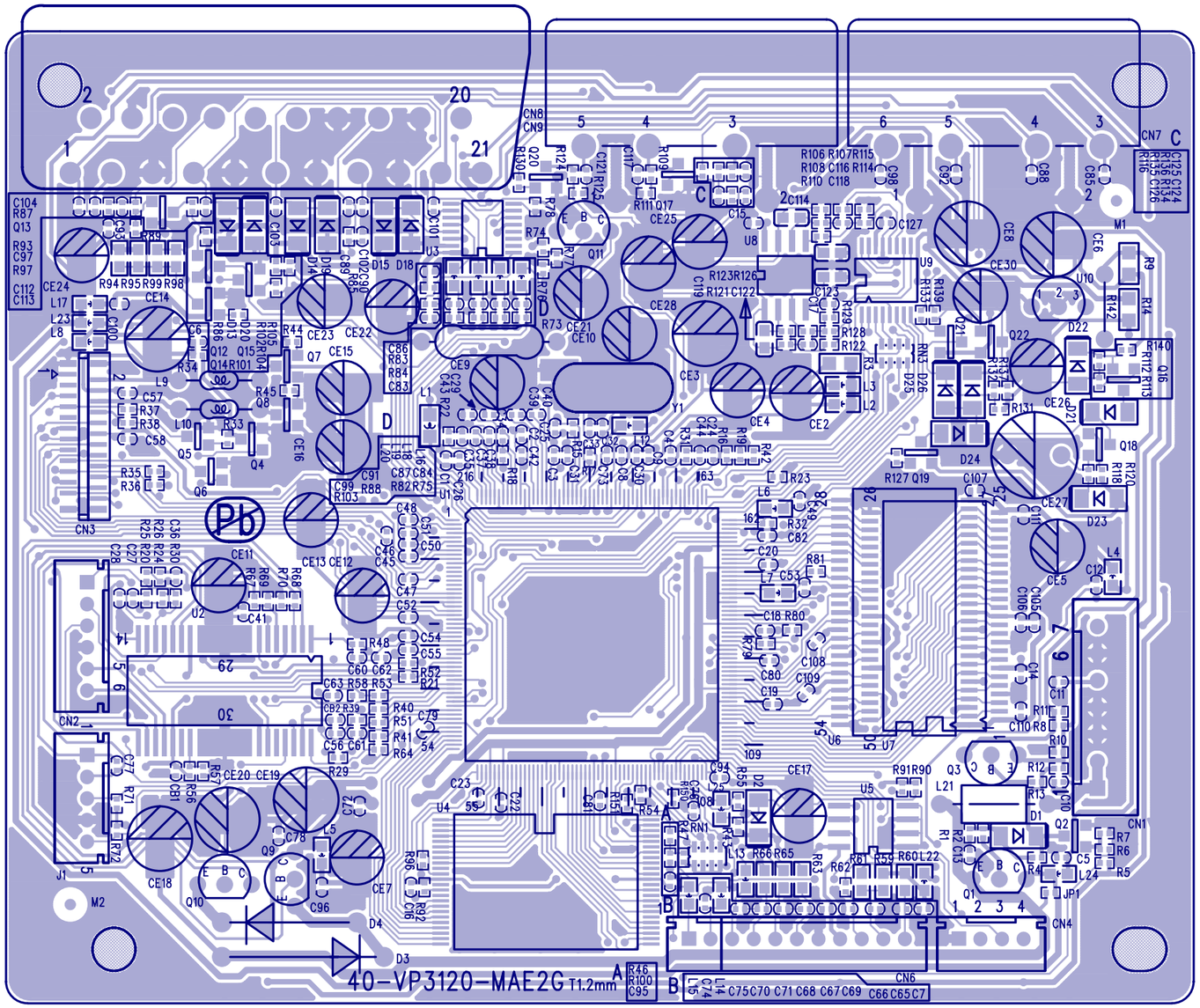
mute circuit



CE25	A 3
CE26	A 5
CE27	A 5
CE28	B 3
CE30	D 4
CN9	B 2
C114	A 3
C116	A 3
C117	A 2
C118	A 3
C119	A 3
C121	B 2
C122	B 3
C123	B 3
C124	B 3
C125	B 3
C126	B 3
C127	D 4
D21	A 4
D22	A 5
D23	A 5
D24	B 4
D25	B 4
D26	B 4
Q16	A 5
Q17	A 2
Q18	A 4
Q19	B 5
Q20	B 2
Q21	B 5
Q22	B 5
RN3	C 5
R106	A 3
R107	A 4
R108	A 3
R109	A 2
R110	A 3
R111	A 3
R112	A 5
R113	A 5
R114	A 4
R115	A 3
R116	A 2
R118	A 5
R120	A 5
R121	A 3
R122	B 4
R123	B 3
R124	B 2
R125	B 3
R126	B 3
R127	B 5
R128	B 4
R129	B 3
R130	B 2
R131	B 4
R132	B 4
R133	B 5
R134	B 3
R135	B 3
R136	B 3
R137	B 4
R139	B 5
R140	A 5
R142	D 4
U8A	B 3
U8B	A 3
U9	C 5
U10	D 4
X4	D 2

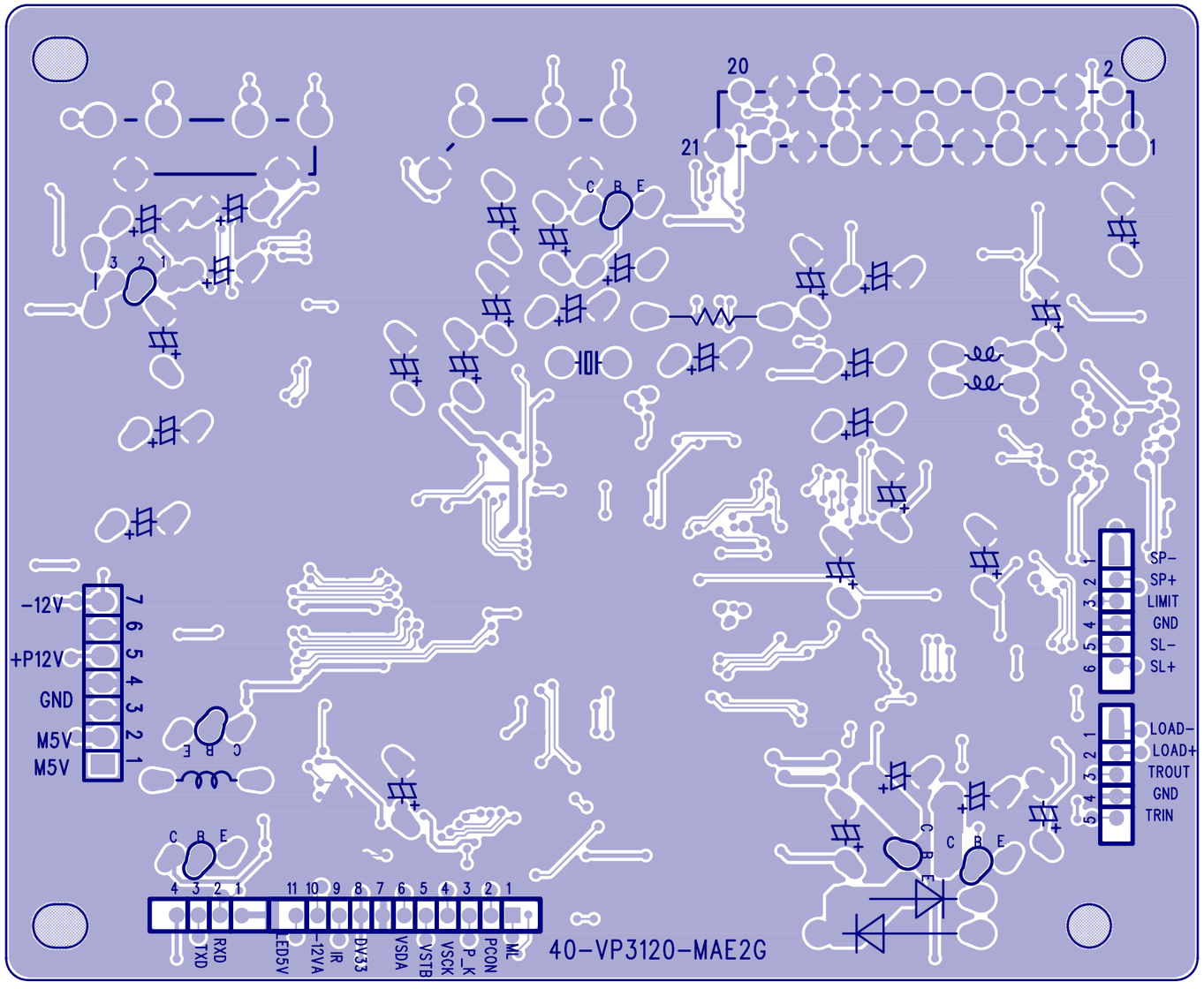
6-18

Main Board Print-Layout (Top Side) for DVP3120/05/12

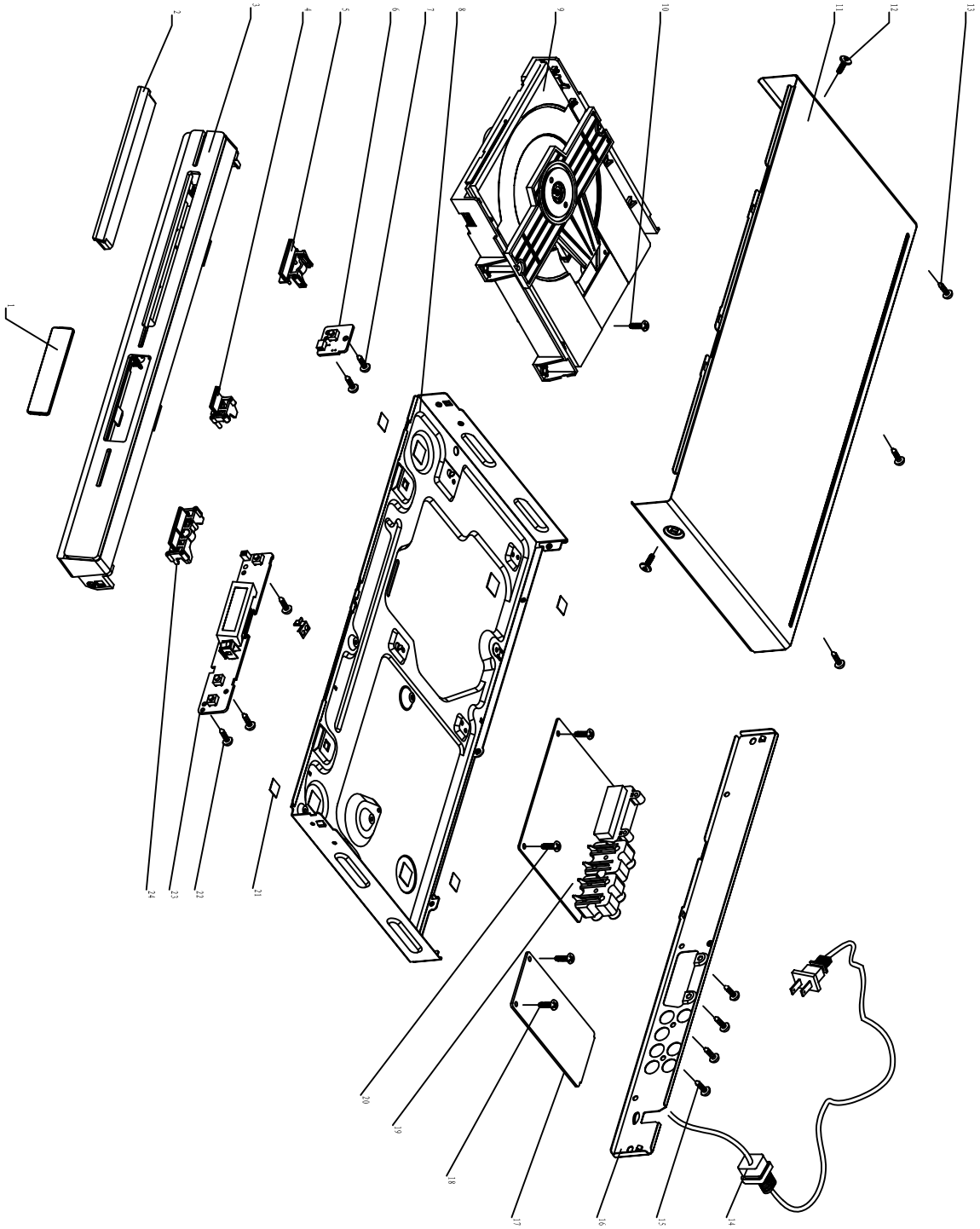


6-19

Main Board Print-Layout (Bottom Side) for DVP3120/05/12



DVP3120/XX Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3120/XX, Detailed information please refer to Model set.
Ass'y1 is the assembled component for location 1,3,4,5,24

ENCASING & ACCESSORIES PARTS LIST

No	12NC No.	Part Name	Q'ty
Ass'y1	996510001808	Front Panel Ass'y for DVP3120/05/12/51/55/78	1
	996510001823	Front Panel Ass'y for DVP3120/94	
2	996510001807	Front Door Ass'y	1
6	996510001163	Ass'y-Switch Board	1
8	/	Bottom Cabinet for DVP3120/05/12	1
	996510001229	Bottom Cabinet for DVP3120/51/55/94	
9	996510001805	Loader for DVP3120/05/12/51/55/78	1
	996510001821	Loader for DVP3120/94	
11	996510001682	Top cover for DVP3120/05/12/51/55/94	1
14	/	Power Cord for DVP3120/05	1
	996510001179	Power Cord for DVP3120/12/51/94	
	996510001175	Power Cord for DVP3120/55	
16	/	Rear Cabinet for DVP3120/05/12	1
	/	Rear Cabinet for DVP3120/51/94	
	/	Rear Cabinet for DVP3120/55	
	/	Rear Cabinet for DVP3120/78	
17	996510001165	Ass'y-Power Board for DVP3120/05/12	1
	996510001200	Ass'y-Power Board for DVP3120/51	
	996510001190	Ass'y-Power Board for DVP3120/55	
	/	Ass'y-Power Board for DVP3120/78	
	996510001820	Ass'y-Power Board for DVP3120/94	
19	/	Ass'y-Main Board for DVP3120/05/12	1
	/	Ass'y-Main Board for DVP3120/51	
	/	Ass'y-Main Board for DVP3120/78	
	996510001819	Ass'y-Main Board for DVP3120/94	
	996510001804	Ass'y-Main Board for DVP3120/55	
21	996510001680	Pad	4
23	996510001164	Ass'y-Front Board for DVP3120/05/12/51/55/94	1

SCREW LIST

No	12NC No.	Part Name	Q'ty
7	/	S/T Screw B2.6X8 BF	2
10	/	Machine Screw	1
12	/	Triangle M/C Screw 3*6	2
13	/	Triangle M/C Screw B3*6	3
15	/	S/T Screw B 3 X 8 BF	4
18	/	Triangle M/C Screw B3*6	2
20	/	Triangle M/C Screw B3*6	2
22	/	S/T Screw B2.6X8 BF	3

Accessory

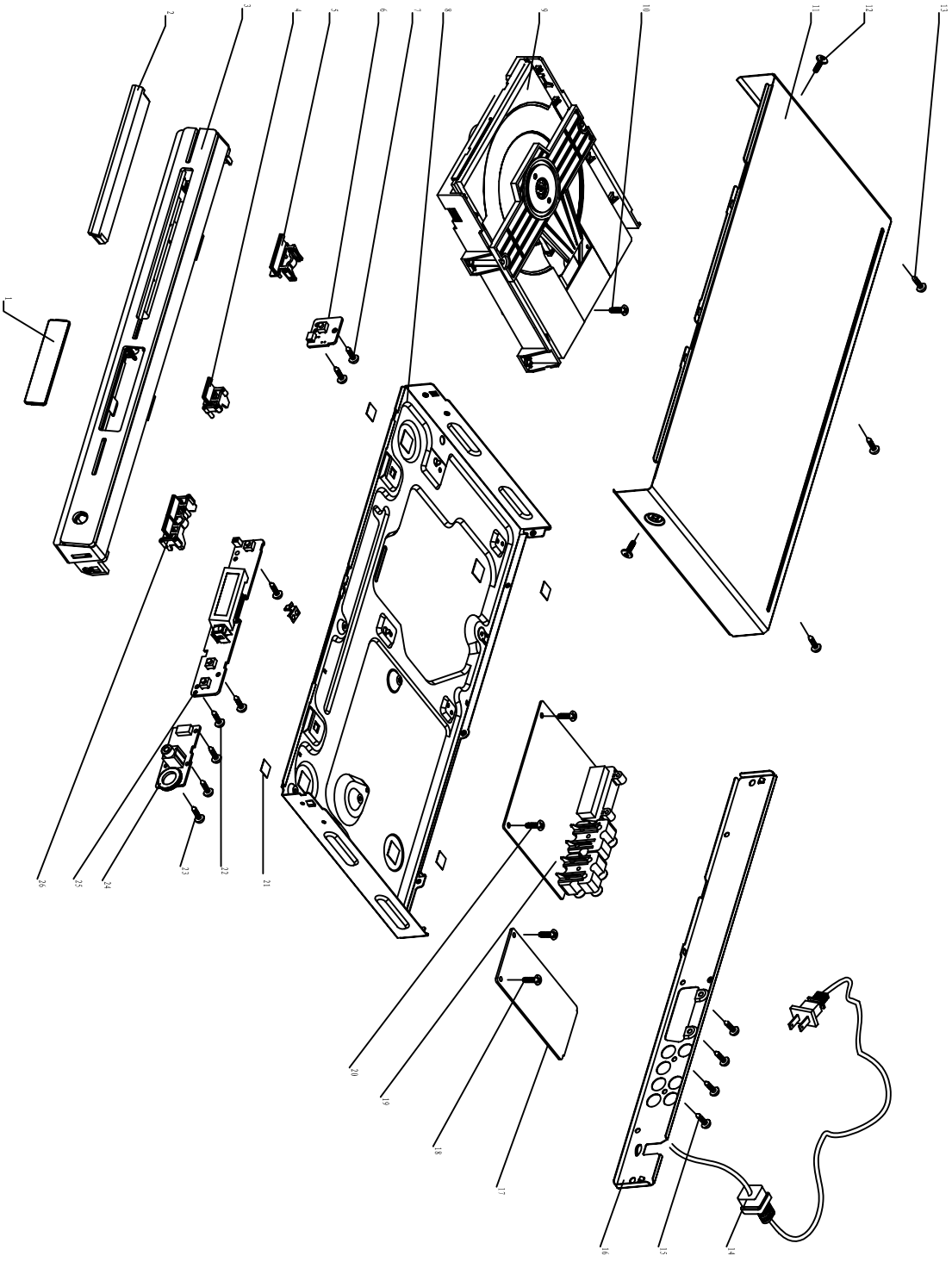
RC	996510001822	REMOTE CONTROL for DVP3120/94	1
RC	996510001806	REMOTE CONTROL for DVP3120/55/12/51/	1
AV Cable	996510001106	VIDEO CABLE 1500mm for DVP3120/51/55/ 78/94	1

Cable

CON301	996510001172	HS 9PIN	1
CON302	996510001171	2P HS	1
CN1	996510001169	TJC3-7Y/SCN-7P L=80MM	1
CN3	996510001108	46-39912C-24XGA	1
J1	996510001192	PH-5Y/PH-5Y L=130MM	1

Note:Only the parts mentioned in this list are normal service spare parts

DVP3120K/XX Mechanical Exploded View



Remark: It's a general Mechanical Exploded View for DVP3120K/XX, Detailed information please refer to Model set.
Ass'y1 is the assembled component for location 1,3,4,5,26

ENCASING & ACCESSORIES PARTS LIST

No	12NC No.	Part Name	Q'ty
Ass'y1	/	Front Panel Ass'y	1
2	/	Front Door Ass'y	1
6	996510001163	Ass'y-Switch Board	1
8	996510001229	Bottom Cabinet	1
9	/	Loader	1
11	996510001682	Top cover	1
14	996510001175	Power Cord	1
16	/	Rear Cabine	1
17	/	Ass'y-Power Board	1
19	/	Ass'y-Main Board	1
21	996510001680	Pad	4
24	/	Ass'y-OK Board	1
25	996510001164	Ass'y-Front Board	1

SCREW LIST

No	12NC No.	Part Name	Q'ty
7	/	S/T Screw B2.6X8 BF	2
10	/	Machine Screw	1
12	/	Triangle M/C Screw 3*6	2
13	/	Triangle M/C Screw B3*6	3
15	/	S/T Screw B 3 X 8 BF	4
18	/	Triangle M/C Screw B3*6	2
20	/	Triangle M/C Screw B3*6	2
22	/	S/T Screw B2.6X8 BF	3
23	/	S/T Screw B2.6X8 BF	3

Note:Only the parts mentioned in this list are normal service spare parts

REVISION LIST

Version 1.0

* Initial release

Remark: This Service manual only for Philips Service repairment, Please Don't transmitte or forward it to others.